

**THE TOWN OF UXBRIDGE, MASSACHUSETTS  
ROADWAY & INTERSECTION IMPROVEMENTS PROJECT  
DOUGLAS STREET (ROUTE 16) AT  
WORCESTER-PROVIDENCE TURNPIKE (ROUTE 146)  
CONTRACT 2022-14**

**ADDENDUM #2  
March 16, 2022**

**BID OPENING: MARCH 23, 2022, AT 12:00 PM**

**TO ALL PROSPECTIVE BIDDERS:**

This addendum serves to clarify questions received in regard to the Plans and Specifications issued for the subject project and shall be made part of the Contract Documents.

Each bidder must sign the attached “Addendum #2 Receipt Acknowledgement Form” and submit it as part of their sealed bid.

**The following Documents have been revised and replacement copies provided herewith:**

- Document 0300, Construction Agreement
  - Article 5, Legal Relations and Responsibility to Public, Section 5.03, Insurance Requirements  
*The language in this article has been replaced in its entirety.*
  - Article 7, Measurement and Payment, Section 7.01, Measurement of Quantities  
*The language in this section has been removed in its entirety.*
  - Article 8, Dispute Resolution  
*The language in this article has been replaced in its entirety.*
  - Article 9, Equal Employment Opportunity and Affirmative Action, Section 9.05  
*The language in this section has been replaced in its entirety.*

- Document 0400, Form for Bid

*The following bid items have been added:*

- Item 150, Ordinary Borrow per Cubic Yard
- Item 153, Controlled Density Fill – Excavatable per Cubic Yard
- Item 813.43, Wire Type 8 No. 4 Direct Burial per Foot
- Item 813.48, Wire Type 8 No.3/0 Direct Burial per Foot
- Item 853.411, Temporary Impact Attenuator for Shoulder, Incapable of Redirection, Removed and Reset per Each
- Item 853.8, Temporary Illumination for Work Zone per Day

*The following bid items have been deleted:*

- Item 813.42, Wire Type 8 No. 6 Direct Burial per Foot
- Item 813.44, Wire Type 8 No. 2 Direct Burial per Foot

*The estimated quantities for the following bid items have been revised:*

- Item 120, Earth Excavation per Cubic Yard
- Item 804.2, 2 Inch Electrical Conduit - Type NM - Plastic (UL) per Foot
- Item 804.3, 3 Inch Electrical Conduit - Type NM - Plastic (UL) per Foot
- Item 813.40, Wire Type 8 No. 10 Direct Burial per Foot
- Item 813.71, Ground Rod 8 Ft. Long per Each
- Item 853.21, Temporary Barrier TL-2 per Foot
- Item 853.41, Temporary Impact Attenuator for Shoulder, Incapable of Redirection per Each

- Document 0500, Special Provisions

- Division I - General Conditions

*The following section has been added:*

- “Price Adjustments”

*The following sections have been revised:*

- Division II - Technical Specifications
  - “Permits and Fees”
  - “Time of Completion for Phased Construction, Construction Phase I”
  - “Water System Castings”

*The special provisions for the following items have been revised:*

- |               |  |
|---------------|--|
| ▪ Item 701.31 | Stamped Cement Concrete Pavement                     |
| ▪ Item 755.35 | Inland Wetland Replication Area                      |
| ▪ Item 804.2  | 2 Inch Electrical Conduit Type NM - Plastic - (UL)   |
| ▪ Item 804.3  | 3 Inch Electrical Conduit Type NM - Plastic - (UL)   |
| ▪ Item 806.3  | 3 Inch Electrical Conduit Type RM – Galvanized Steel |

**The following Documents have been added to the Special Provisions and copies provided herewith:**

- Document 0510, Monthly Price Adjustment for Hot Mix Asphalt (HMA) Mixtures
- Document 0520, Monthly Price Adjustment for Diesel Fuel and Gasoline
- Document 0530, Price Adjustment for Portland Cement Concrete Mixes

**The following changes have been incorporated into the Plans and replacement copies provided herewith:**

- General Notes, Pavement Notes & Construction Details (Sheet 6 of 106)

*A “Temporary Roadway Pavement Area” section has been added to the Pavement Notes that specifies the proposed hot mix asphalt types and thicknesses. The previous note pertaining to temporary paved areas has been stricken out. A new “Detail for Truck Apron Traverse Expansion Joint” and a new “Detail for Longitudinal Joint at Beveled Granite Curb” have been added to this sheet. In addition, the existing “Detail for Concrete Truck Apron” has been revised to incorporate and note the said longitudinal joint detail.*

- Lighting Details (Sheet 57 of 106)

*The “Detail for Conduit Under Roadway in Milling & Resurfacing Areas” has been replaced by a new detail entitled “Detail for Temporary Trench Patching in Full-Depth Construction Areas”. In addition, the existing “Detail for 24”x13”x36” Electric Handhole” has been revised to indicate the conduit and bell ends shall be PVC.*

- Cross Sections - Douglas Street (Sheet 90 of 106)

*This sheet was incorrectly numbered as sheet 89 of 106. It has been revised to read sheet 90 of 106 accordingly.*

**The following is a list of questions received from prospective bidders with answers provided by the Project's Design Engineer:**

**Question 1:** *Page 0200-2 states that questions shall be sent to the town engineer. Page 0100-1 states questions shall be sent to MDM. Please confirm it is OK to send pre-bid questions to [dmills@mdmtrans.com](mailto:dmills@mdmtrans.com).*

**Response:** Pre-bid questions shall be submitted to the project Design Engineer, Daniel Mills, P.E., P.T.O.E at [dmills@mdmtrans.com](mailto:dmills@mdmtrans.com).

**Question 2:** *Page 0300-5, section 2.01.4 states for the contractor to perform work outside the right-of-way. Did the Town take the required temporary and permanent easements for grading work or any other work referred to as “outside the right-of-way”?*

**Response:** The Owner is in the process of procuring rights of entry for all abutting properties to allow for proposed driveway paving, slope grading, loam placement and seeding operations in accordance with the Plans. It is anticipated these rights will be obtained and in place before the work is scheduled to commence.

**Question 3:** *Does the contractor need permission from any private property owner to work “outside the right-of-way?”*

**Response:** The Owner is in the process of procuring rights of entry for all abutting properties to allow for proposed driveway paving, slope grading, loam placement and seeding operations in accordance with the Plans. It is anticipated these rights will be obtained and in place before the work is scheduled to commence.

**Question 4:** *Page 0300-21, Section 5.08 discusses traffic safety and then into more detail on page 0500-8. The bid contains items for barrier, drums, signs, arrowboards, police, striping but does not contain a pay item for traffic control crews. Setups will be required to install barrier, remove barrier, milling, paving, striping, ramp closures, etc. Can the standard typical item 851.1-Traffic Cones for Traffic Management per Unit Day be added to the bid to compensate contractors for daily traffic control setups to be installed, maintained, and removed?*

**Response:** Any labor relative to traffic safety operations should be factored into the respective bid items by the Contractor.

**Question 5:** *Page 0300-22, Section 5.08.7 calls for notifying the MBTA. Is this just a typo or is the MBTA somehow involved?*

**Response:** The MBTA has no facilities or jurisdiction within the project area. Please disregard any references to the MBTA.

**Question 6:** *Page 0300-27, Section 6.02.4 discusses liquidated damages (LD's: being triggered for substantial completion. Confirm that Phase III is the only stipulated milestone where LD's will be assessed and that they will not be assessed for failure to meet any other prescribed schedule milestones namely Phase 1, 2 as listed on page 0400-17.*

**Response:** Liquidated damages will be assessed for failure to meet any of the scheduled milestones for any of the three (3) construction phases as outlined in the Bid Documents.

**Question 7:** *To meet the Phase II milestone, confirm that all work shown on the Traffic Management Plan, up to Phase 8 construction shown on sheet 80 of 106 is considered required to be complete to meet the Phase II date of 9/30/22.*

**Response:** All work shown on the Traffic Management Plans, up to and including Phase 8 construction, as shown on sheet 80 of 106 of the Plans, is required to be completed to meet the Phase II completion date of 9/30/22.

**Question 8:** *Page 0300-14, Article 7, Section 7.01 discusses Measurement and Payment. The project is designed and will be built with pay items and standards covered and referenced by the 2021 MassDOT Standard Specs. MassDOT specs have sections of measurement and payment for each pay item so to have section 7.01 seems duplicative and controversial. Can Subsection 7.01 be deleted and just use measurement and payment per the 2021 MASSDOT Standard Spec's?*

**Response:** Presuming this question was made in reference to Page 0300-34 (not 0300-14), Document 0300, Construction Agreement has been revised such that Article 7, Section 7.01, Measurement of Quantities, has been removed from the language. The provisions of the 2021 MassDOT Standard Specifications regarding the measurement of quantities shall govern.

**Question 9:** *Page 0300-38 contains Article 8 Dispute Resolution. Confirm that this will supercede any claims processes provided for in the 2021 MassDOT Standard Spec's.*

**Response:** Document 0300, Construction Agreement, Article 8, Dispute Resolution, has been revised in its entirety. The provisions therein shall supersede the 2021 MassDOT Standard Specifications.

**Question 10:** *Article 9 discusses minority manpower ratios of 7.4%. Typically, there is a female participation ratio as well. Confirm that there is no female requirement, or, please specify one.*

**Response:** Article 9 has been revised to state that he Contractor shall have no obligation relative to participation of Minority-Owned Business Enterprises (MBE) and/or Women-Owned Business Enterprises (WBE) on the basis of total dollars paid under this Contract.

**Question 11:** *Page 0500-1 discusses the engineer being a person authorized by "the department". Will the "engineer" assigned on the job be the Town, MassDOT or MDM personnel? Is this the individual that will occupy the field office paid under Item 740.?*

**Response:** The Engineer in question will be an employee of MDM Transportation Consultants, Inc., representing the Town of Uxbridge. Said Engineer will be the occupant of the field office to be provided under Item 740.

**Question 12:** *Confirm that a trailer and stand alone portable toilets are acceptable for Item 740.*

**Response:** A trailer and standalone portable toilets are acceptable under the provisions of Item 740.

**Question 13:** *Is it anticipated that the trailer will be staffed during winter months and therefore, require snow plowing/removal services?*

**Response:** Provided construction activities remain ongoing during the winter months, the trailer will be staffed and thus snow plowing/removal services will be required.

**Question 14:** *Page 0500-6 states that surveying is incidental to other pay items. Will the owner provide control points and baseline to start?*

**Response:** The owner will provide the Contractor with Autocad files that contain both the control points and survey baselines. It shall be the responsibility of the Contractor to employ a surveyor to stake out the project accordingly.

**Question 15:** *Will the contractor be provided with the Autocad files from the owner for their use for the survey/layout of the work?*

**Response:** The Contractor that is awarded the work will be provided with the Autocad files by the Owner for their use in laying out the work.

**Question 16:** *Page 0500-12 states that adjusting drainage structures is to be included under the relevant drainage items, without additional compensation therefore any adjustment made to new drainage structures will be included under the contract unit bid price for the respective structures. Page 0500-12 also describes when adjustments will be paid for under Item 220. These 2 statements contradict each other. Will item 220. and 358. be used to pay contractors for adjusting the structures to final grade?*

**Response:** Castings for new structures shall be set at intermediate level upon installation. Any additional adjustment to castings to bring them to final surface grade shall be paid for as an adjustment under Items 220., 220.7 or 358., as applicable.

**Question 17:** *Is the contractor expected to bring drain and water gate structures flush to the surface between each paving course? If so, will the contractor be paid for each adjustment as field conditions require or as directed by the engineer?*

**Response:** Castings for new structures shall be set at intermediate level upon installation. Any additional adjustment to castings to bring them to final surface grade shall be paid for as an adjustment under Items 220., 220.7 or 358., as applicable.

**Question 18:** *Page 0500-13 states that the cost of adjusting all water gate structures is to be included in the Lump Sum Bid Price. Confirm that adjustment of water gates is to be paid per unit price under Item 358. and that this project is not a lump sum project.*

**Response:** This project is not a lump sum project. All water gate structures to be adjusted shall be paid per unit price under Item 358. The language in the Special Provisions has been modified accordingly.

**Question 19:** *When structures are raised to finish grade, confirm that temporary asphalt mix around them (“donuts”): will be paid for under Item 472. and that the removal of such “donut” material is incidental and will not be paid.*

**Response:** Temporary paving shall be paid for under Item 472, Hot Mix Asphalt for Miscellaneous Work. Removal of material installed under Item 472 shall be considered incidental to this work.

**Question 20:** *Page 0500-14 states that the contractor shall be responsible for establishing all invert elevations and shall submit them prior to ordering any structures. The drainage plans contain inverts that have been designed. Should this specification be removed-it seems unnecessary and confusing.*

**Response:** Rim and invert elevations for the proposed drainage system have been provided on the Drainage Plans. The Contractor shall verify this information prior to ordering any structures.

**Question 21:** *Page 0500-16 in the holidays section lists Mother's Day - will this holiday be observed?*

**Response:** There are no work restrictions due to traffic concerns for Mother's Day.

**Question 22:** *Page 0500-16 in the holidays does not list Juneteenth, a newly enacted holiday. Will that holiday be observed?*

**Response:** There are no work restrictions due to traffic concerns for Juneteenth.

**Question 23:** *Page 0500-17 discusses schedule of operations that is very basic. Please confirm that the typical MassDOT Pay Item 100.-Schedule of Operations and its related specifications that call for monthly updates, planning sessions, planning meetings, P6 Software for field office, and TEA for time extensions will not apply to this contract. If scheduling efforts like that are desired, please consider adding Item 100. To compensate the contractor for the efforts.*

**Response:** Typical MassDOT Pay Item 100.-Schedule of Operations and its related specifications that call for monthly updates, planning sessions, planning meetings, P6 Software for field office, and TEA for time extensions will not apply to this contract.

**Question 24:** *Is a Public Utilities Coordination (PUC) form available for this project that MassDOT typically provides all bidders prior to bid.*

**Response:** No Public Utilities Coordination (PUC) form is being provided for this project. The Owner is currently working with National Grid Electric relative to utility pole relocations and will coordinate with the Contractor once the utility pole relocation work is scheduled.

**Question 25:** *If the PUC form is not available, what activities and durations can contractors use to establish a baseline schedule to meet dates of Phase I, II & III.*

**Response:** The Owner is currently working with National Grid Electric relative to utility pole relocations and will coordinate with the Contractor once the utility pole relocation work is scheduled. Based on ongoing correspondence with National Grid, utility pole relocation work is expected to commence in early April.

**Question 26:** *If the PUC form is not available, the concern is the pole (UP#85 at Sta. 18+00, RT:. To achieve Phase II milestone, all new pole sets need to occur, new wiring run, cable, fire alarm, etc., then, existing Pole #85 can be removed. This work is not shown on the Traffic Management Plan, namely Sheet 75 & 76 of 106. Can these activities be created for a PUC form (assumes utility designs and engineering are complete: if there is not one:*

*Notify all Utility Providers-30 Days  
Clear and Grub, Tree Trimming New Pole Set location-?? Days  
Set Poles and Anchors-?? Days  
Place and Transfer power wiring-Power Company-?? Days  
Remove existing power wiring-Power Company-?? Days  
Place/Transfer other wiring (Communications, Cable, Fire, etc:-?? Days  
Pull/Remove and dispose existing poles-?? Days*

**Response:** The Owner is currently working with National Grid Electric relative to utility pole relocations and will coordinate with the Contractor once the utility pole relocation work is scheduled. Based on ongoing correspondence with National Grid Electric, utility pole relocation work is expected to commence in early April.

**Question 27:** *Item 740.-Engineer's field office special provision on page 0500-24 requires the contractor to provide the latest Autodesk Autocad LT. Please confirm that this is required as it is a considerable expense and experience leads us to believe that it is seldom used by MassDOT field office personnel.*

**Response:** The Contractor will not be required to provide Autodesk Autocad LT software for this project.

**Question 28:** *Is the contractor required to perform traffic control for utility work that is slated "By Others"? If so, please consider adding Item 851.1 as stated in Question #4 above.*

**Response:** The Contractor will not be required to provide traffic control for work to be performed by others.

**Question 29:** *Page 0500-20, under unclassified excavation, special provision references septic systems and sprinkler systems. Are there any known septic and/or sprinkler systems that prompted this clause to be added to the specifications? If so, can they be called out on the plans.*

**Response:** Based on available information, it appears that there are no active septic and/or irrigation systems within the project area. However, the Contractor shall field verify these conditions prior to commencement of any construction operations.

**Question 30:** *Page 0500-21, special provisions for Item 685. States “all cement concrete used for retaining wall construction, including placement around existing pipes and flared end sections shall be considered incidental to the work under this item with no additional compensation to be made therefore.” Please confirm that concrete footings for the walls (not directly under the existing concrete pipe) will be measured and paid per CY under Item 685. or confirm that the concrete footings are incidental and will not be paid. The detail on sheet 88 of 106 and cross sections on sheet 94 of 106 show concrete footings.*

**Response:** Concrete footings for retaining walls shall be paid for by the unit bid price for under the provisions of Item 685.

**Question 31:** *Similar to question #23, the retaining walls do not show copings or fencing along the top of the walls. Please confirm there is no coping required or fencing required at the retaining walls.*

**Response:** No coping or fencing is being proposed on top of the stone masonry retaining walls as shown on the Plans.

**Question 32:** *Confirm that temporary fencing is not required to limit access to work zones even though pedestrian traffic is referenced in several locations. If temporary fencing is required, consider adding item #657.-Temporary Fence and show it on the plans for safety of the pedestrian traffic.*

**Response:** Temporary fencing is not required for this project.

**Question 33:** *Item 701.31 - Stamped Cement Concrete Truck apron - is a mock up required on site for approval? If so, please provide sizes and details.*

**Response:** Item 701.31 has been revised. It is now known as “Stamped Cement Concrete Pavement” and is measured and paid per Square Yard. A mockup measuring a minimum of three (3) square yards is required.

**Question 34:** *Item 701.31 - Stamped Cement Concrete Truck - detail on plan sheet 6 of 106 states contraction and expansion joints. Please provide details of each joint type. If dowels are required please provide size, spacing, epoxy or plain and pay item used for compensation?*

**Response:** Joint details have been added to the Construction Details on Sheet 6 of 106.

**Question 35:** *Item 701.31 - Stamped Cement Concrete Truck - is wire mesh required in the concrete? If so, please provide wire thickness, grid size, epoxy or not, and the pay item used for compensation.*

**Response:** The cement concrete shall be reinforced with 6"x6"x10 gauge welded steel fabric. The reinforcement shall be placed approximately 1" from the bottom of the concrete. Reinforcement shall be considered incidental to this item.

**Question 36:** *Item 701.31 - Stamped Cement Concrete Truck-are there any sealant requirements? If so, please specify brand name and pay item used for compensation.*

**Response:** There are no sealant requirements beyond those as stipulated in Subsection 476 of the standard Specifications.

**Question 37:** *Item 755.35 - Inland Wetland Replication Area-Page 0500-35 as well as Note #9 on plan sheet 33 of 106 states that for a 2 year period following construction of the wetland area, annual reports from a wetland scientist shall be performed. This contract is only 18 months long ending in August 2023. Will the contract duration be modified to include this monitoring period or will the reporting and monitoring of the wetland be performed by others?*

**Response:** The reporting and monitoring shall be performed by the Contractor and shall continue for two growing seasons following the construction of the wetland replication area. The Inland Wetland Replication Area shall be completed by June 1, 2022 with the first monitoring reporting to be completed by October 31, 2022 and the second monitoring report completed by October 31, 2023.

**Question 38:** *Item 755.35 - Inland Wetland Replication Area-under basis of payment it does not provide any partial payments. How will the Lump Sum be paid (%'s based on such activities as 30% upon shaping, 30% based on plantings, 30% based on acceptance etc.:. Some guidance needs to be provided and this goes back to doing 2 years of monitoring-will money be held back for 2 years until monitoring is complete?*

**Response:** Payment will be made based on a percentage of work completed for Item 755.35 - Inland Wetland Replication Area.

**Question 39:** *Under highway lighting, when is the contractor required to activate and turn on the lights?*

**Response:** The Contractor will be required to activate and turn on the proposed highway lighting system prior to construction phase 6 (per the Traffic Management Plans) for the eastern roundabout and prior to construction phase 12 for the western roundabout.

**Question 40:** *Is the highway lighting to be completed in Phase II milestone of 9/30/22? Lead time for poles and luminaires is the concern.*

**Response:** The intent is for the highway lighting system servicing the eastern roundabout to be in place and fully operational no later than the Phase II milestone of 9/30/2022. However, given potential issues regarding lead time for ordering and procuring lighting related items, all highway lighting systems must be in place and fully operational by the Phase III milestone of August 30, 2023. Should the highway lighting system not be in place for the Phase II completion date due to procurement delays, temporary traffic management setups utilizing reflectorized drums and signage shall be used, provided the roadway construction under this phase is substantially complete, as determined by the Engineer.

**Question 41:** *When the lights are activated, who pays for the power used during the contract duration-the contractor or the owner?*

**Response:** The Contractor shall be responsible for all costs associated with providing power to the highway lighting systems until final acceptance by the Owner.

**Question 42:** *What if any Covid-19 guidelines will be required of the contractor - more frequent cleaning of field offices and sanitary facilities? Will daily self evaluation forms be required? The MassDOT permit page 0800-1 references them but if this project is not subject to MassDOT resident engineers, will these requirements be needed to be adhered to?*

**Response:** Covid-19 guidelines shall be as provided in the MassDOT Highway Access Permit included under Document 0700.

**Question 43:** *Page 0500-15 references some operations having to occur at night. How will the contractor be compensated for night lighting? Can the addition of item 853.8-Temporary Illumination for Work Zone per Unit Day be added?*

**Response:** Item 853.8, Temporary Illumination for Work Zone has been added to the proposed work per this addendum.

**Question 44:** *There is no language for liquid asphalt, diesel, cement, steel and all other pay adjustments currently incorporated into MassDOT standard specifications. Confirm that these pay adjustments apply and can base prices be published in the specifications as this month's diesel fuel posted price will not be established until after the current bid date.*

**Response:** Base prices and payment adjustment language have been provided under this addendum for liquid asphalt, diesel, gasoline and Portland cement.

**Question 45:** *Looking at the traffic management plans, such as Plan Sheet 85 of 106, it shows a TL-2 temporary barrier protecting the temporary pedestrian path. The TL-2 barrier does not meet ADA requirements regarding a toe rail and hand rail adjacent to pedestrian paths. Can the typical items be added for these situations protecting ADA accessibility during construction such as item 852.11 Temporary Pedestrian Barricade per Foot and 852.12-Temporary Pedestrian Curb Ramp for the protection of the sidewalks?*

**Response:** TL-2 temporary barriers are intended to delineate the pedestrian path in construction zones. They are not intended to provide ADA compliant railings.

**Question 46:** *Item 853.41 calls for impact attenuators. Is it the intent to provide a new attenuator each time it is required? Consider adding the MassDOT typical item for Impact Attenuator Removed and Reset to reduce the overall number of new attenuators called for on the project.*

**Response:** Item 853.411, Temporary Impact Attenuator for Shoulder, Incapable of Redirection, Removed and Reset has been added to the proposed work per this addendum.

**Question 47:** *Page 0800-2 in the MassDOT permit, it references the MassDOT Standard Specifications dates 2020. Plan Sheet 1 of 106 references the 2021 MassDOT Specs. Which one governs?*

**Response:** The 2021 MassDOT Standard Specifications for Highways and Bridges, as amended, shall govern.

**Question 48:** *The 2021 MassDOT Standards, Section 450 is assumed to be part of the project due to the references to it. The material requirements and QA/QC work required is substantial and it requires work from MASSDOT Research and Materials personnel. Will this specification section apply to this contract?*

**Response:** MassDOT is requiring the use of SUPERPAVE asphalt mixes that conform with Section 450 of the 2021 Standard Specifications. As such, HMA mixes shall adhere to these standards.

**Question 49:** *Will the owner have MassDOT personnel/private consultant personnel staff the project and perform inspections at the HMA Plant?*

**Response:** The Owner will coordinate monitoring services at the HMA plant with MassDOT personnel.

**Question 50:** *Will the sharepoint website be applicable to upload the pavement data and Item 450.92 be established for QA/QC paving pay incentives/disincentives? This typically requires MassDOT personnel on site and at the HMA plant and monitoring the website to compute such items?*

**Response:** MassDOT has indicated that the QA SharePoint website will be available to upload the pavement data. Section 450.92 of the 2021 Standard Specifications is applicable to the work.

**Question 51:** *See the 2021 specs and namely, Table 450.10-3 and the Category B lot requirements. Will the category B lot requirements apply?*

**Response:** Category B (Small Lot) requirements will apply only to Item 450.42, Superpave Base Course - 37.5 (SBC-37.5). Lot C (Minor Lot) shall apply to all other Superpave materials.

**Question 52:** *The temporary paved areas are shown as a hatched area on the traffic management plans. The pavement sections do not specify HMA thicknesses and types for this work. Does the detail on Sheet 8 of 106 “Detail for Temp. Trench Patching in Full Depth Construction Areas apply to these hatched areas”? Please provide a “Temporary Paved Area” section detail with mix types and thicknesses.*

**Response:** A “Temporary Roadway Pavement Area” section has been added to the Pavement Notes on Sheet 6 of 106 that specifies the proposed hot mix asphalt types and thicknesses.

**Question 53:** *Depending on the “Temporary Paved Area” section detail, under what pay items will the contractor be paid for the Temporary paved Areas? Depending on what item is used to pay for temporary pavement, it brings up payment for other activities as well-see the next 2 questions.*

**Response:** The work required to construct temporary roadway pavement areas shall be paid under the applicable payment items as provided in the Pavement Notes on Sheet 6 of 106.

**Question 54:** *Will the contractor be paid Item 120.-Unclassified Excavation to subsequently excavate and remove the temporary pavement?*

**Response:** Excavation and removal of temporary pavement in roadway areas will be paid under Item 120, Earth Excavation.

**Question 55:** *Will the contractor be paid Item 170. Fine Grading for the temporary paved areas?*

**Response:** Fine grading of the temporary paved roadway areas will be paid for under Item 170, Fine Grading and Compacting.

**Question 56:** *Can the bid date be extended to allow for 5 business days after all questions are responded to, to allow time for follow-up questions and disseminating information to subs and vendors?*

**Response:** The bid opening has been rescheduled for Wednesday, March 23, 2022, at 12:00 pm.

**Question 57:** *The special provision for the conduit items, Items 804.2, 804.3, and 806.3, call for controlled density fill for backfill to be paid under Item 153. Item 153 does not appear to be included in the bid documents. Please advise.*

**Response:** The special provisions for these items have been revised. Item 153, Controlled Density Fill – Excavatable is not required for backfilling conduit trenches and shall only be used as directed by the Engineer. In addition, Item 153 has been added to Document 0400, Form for Bid, per this addendum.

**Question 58:** The contract does not contain a pay Item for Ordinary Borrow. Please add a pay item for ordinary borrow.

**Response:** Per the 2021 MassDOT Standard Specifications, suitable material obtained from excavation, as determined by the Engineer, shall be used to form embankments. When it is determined by the Engineer that there is not sufficient material available from excavation, additional material shall be furnished under Item 150, Ordinary Borrow. As such, Item 150, Ordinary Borrow has been added as a contingency to the proposed work per this addendum.

**Question 59:** *Can we submit alternative luminaires for pre-approval?*

**Response:** We have reviewed the bid documents and have determined that the highway lighting luminaires from the following five (5) manufacturers are approved for use on this project:

1. American Electric Lighting (Autobarn Series I & II)
2. Leotek (Green Cobra GC1 & GC2 series)
3. Lumec
4. Cooper Industries (Ventus Series)
5. Cree Ruud Beta (LEDway, XSP, SLM Street Light Series)

The use of highway lighting luminaires by other manufacturers is not being considered at this time.

**Question 60:** *Contract Specifications, Article 5, legal relations and responsibility to public, paragraph 5.03.1, states the contractor shall maintain general liability insurance with a six million dollar (\$6,000,000.00) aggregate for personal or bodily injuries. Paragraph 5.03.3 states the Contractor's umbrella excess policies shall contain a minimum total occurrence and aggregate limit of ten million dollars (\$10,000,000.00). We are requesting these insurance requirements be reduced to \$2,000,000.00 and \$5,000,000.00, respectively, which is more in line with industry standards for this type of work.*

**Response:** Article 5, Legal Relations and Responsibility to Public, has been revised as follows:

Section 5.03.1 now states that the Contractor shall purchase and maintain commercial general liability insurance including a comprehensive broad form endorsement and covering the full scope of this Contract with limits not less than One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) aggregate for personal or bodily injuries, and Two Million Dollars (\$2,000,000) per occurrence and aggregate for property damage. A combined single limit per occurrence of Two Million Dollars (\$2,000,000) is acceptable.

Section 5.03.1 now states that the Contractor's umbrella excess policies shall contain a minimum total occurrence and aggregate limit of Five Million Dollars (\$5,000,000).

**Question 61:** *The Contract documents do not provide Drainage details. Will hoods be required for the catch basins? If so please add an item for Hoods.*

**Response:** Catch basin hoods are not required for use on this project.

**Question 62:** *Lighting plan drawings 55 and 56 show No. 4 wiring to light poles. There is no bid item for No. 4 wire. Please add.*

**Response:** Item 813.43, Wire Type 8 No. 4 Direct Burial has been added to the proposed work per this addendum.

**Question 63:** *What size ground wire should be installed with the lighting circuits?*

**Response:** Ground wire shall be the same as that used for the phase conductors.

**Question 64:** Who is responsible for payment of the National Grid charges for the two new electrical services? If the contractor, can an allowance bid item be created as the costs will not be known until work orders have been established.

**Response:** The Owner will be responsible for payment of National Grid charges for the two (2) electrical services.

**Question 65:** *Are light poles to have a receptacle located on the pole? If so, at what height above grade?*

**Response:** No receptables are required for the proposed light poles.

**Question 66:** *Are breakaway couplings required at each light pole?*

**Response:** Breakaway couplings are not required at each light pole.

**Question 67:** *Plan Sheet 57, detail for the 24"x13"x36" handhole shows the pvc conduit entering the handhole with a bell end. Detail "Typical Handhole/Conduit Detail" on plan sheet 58 calls for "Rigid Steel at Sweeps". What is desired for the materials—PVC pipe with bell ends or Galvanized Rigid steel at the handholes? The price of steel is considerably more than just PVC bell ends.*

**Response:** Plan Sheet 57 of 106 has been revised. Conduit and bell ends entering the electric handholes shall be PVC. Rigid metal sweeps are only required for risers at utility poles and light pole foundations.

**Question 68:** *Page 0500-43, under the conduit items, it states "Controlled Density Fill for backfill, if required, will be paid for under Item 153." The bid items do not contain Item #153. Please clarify.*

**Response:** The special provisions for these items have been revised. Item 153, Controlled Density Fill – Excavatable is not required for backfilling conduit trenches and shall only be used as directed by the Engineer. In addition, Item 153 has been added to Document 0400, Form for Bid, per this addendum

**Question 69:** *Regarding Item 813.42 WIRE TYPE 8 NO. 6 DIRECT BURIAL-This item is not shown on the plan but assumed to be wiring between all lighting handholes and load center. Plan calls out this wiring to be #4. Please clarify.*

**Response:** Item 813.42, Wire Type 8 No. 6 Direct Burial, has been deleted from the proposed work and has been replaced with Item 813.43, Wire Type 8 No. 4 Direct Burial, accordingly.

**Question 70:** *Regarding Item 813.44 WIRE TYPE 8 NO. 2 DIRECT BURIAL-This item is not on the plan but assumed to be for service connections. Plan calls out this wiring to be 3/0. Please clarify.*

**Response:** Item 813.44, Wire Type 8 No. 2 Direct Burial, has been deleted from the proposed work and has been replaced with Item 813.48, Wire Type 8 No. 3/0 Direct Burial, accordingly.

**Question 71:** *The MassDOT pre-qualification what is this class of work?*

**Response:** MassDOT prequalification of contractors with the class of work as "Highway - Construction" for the project with an estimated value of \$4,200,000 is required.

**Question 72:** *Do you have a bidders list for the ROADWAY & INTERSECTION IMPROVEMENTS PROJECT DOUGLAS STREET (ROUTE 16) AT WORCESTER-PROVIDENCE TURNPIKE (ROUTE 146) CONTRACT 2022-14 Project?*

**Response:** A list of plan holders can be found on the Accent Printing website ([www.accentblueprints.com](http://www.accentblueprints.com)) or directly via the link below:

<https://www.accentblueprints.com/jobs/957/plan-holders/uxbridge-roadway-intersection-improvements-project-contract-2022-14>

**THE TOWN OF UXBRIDGE, MASSACHUSETTS  
ROADWAY & INTERSECTION IMPROVEMENTS PROJECT  
DOUGLAS STREET (ROUTE 16) AT  
WORCESTER-PROVIDENCE TURNPIKE (ROUTE 146)  
CONTRACT 2022-14**

**ADDENDUM #2 RECEIPT ACKNOWLEDGEMENT FORM**

The bidder hereby acknowledges receipt of this Addendum #2 as part of the Contract Documents for this project by signing below and returning this form as part of their sealed bid.

Signature:\_\_\_\_\_

Name:\_\_\_\_\_  
(Please print)

Title:\_\_\_\_\_

Company:\_\_\_\_\_

Date:\_\_\_\_\_

*Replace the language in Document 0300, Construction Agreement, Article 5, Legal Relations and Responsibility to Public, Section 5.03, Insurance Requirements, Subsection 5.03.1 with the following:*

- 5.03.1** The Contractor shall purchase and maintain such insurance as will protect it and the Town from claims referred to below which may arise out of or result from the Contractor's performance of the Work, whether such performance be by itself or by any Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

The Contractor shall purchase and maintain during the life of this Contract:

1. Insurance sufficient to discharge its obligations under all applicable workers' or workmen's compensation laws of the Commonwealth of Massachusetts and the United States.
2. Employer's liability insurance with minimum limit per accident or disease of One Million Dollars (\$1,00,000.00).
3. Statutory disability and other employee benefit insurance.

The Contractor shall purchase and maintain commercial general liability insurance including a comprehensive broad form endorsement and covering the full scope of this Contract with limits not less than One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) aggregate for personal or bodily injuries, and Two Million Dollars (\$2,000,000) per occurrence and aggregate for property damage. A combined single limit per occurrence of Two Million Dollars (\$2,000,000) is acceptable. Such insurance shall include at least the following:

1. Commercial general liability insurance, including all products, premises-operations, completed operations for at least three years following acceptance and final payment, independent contractors, additional interests of employees, sudden and accidental pollution and contamination, and incidental medical malpractice, and including notice of occurrence and knowledge of occurrence endorsements satisfactory to the Owner.
2. Business automobile liability insurance covering use of any motor vehicle to be used in conjunction with this Contract.
3. Loading and unloading of any motor vehicle must be covered by endorsement to the comprehensive (or compulsory) automobile liability policy.
4. Blanket contractual liability insurance covering all liabilities assumed under the Contract Documents, including, but not limited to, the Contractor's obligations under Section 5.09.
5. Personal injury coverage endorsement (coverages A, B and C), with no exclusions for liability assumed contractually or injury sustained by employees of the Contractor.
6. Broad form coverage for damage to property of the Owner, as well as other third parties, while in the care, custody, or control of the Contractor.

Coverage for the so-called “ECU” hazards (explosion, collapse of buildings, blasting, undermining, and damage to underground property). Before any blasting is done, the Contractor shall present evidence that blasting damage is included in the Contractor’s insurance coverage.

*Replace the language in Document 0300, Construction Agreement, Article 7, Measurement and Payment, Section 7.01, Measurement of Quantities with the following:*

## **7.01 Measurement of Quantities**

This section is not used.

*Replace the language in Document 0300, Construction Agreement, Article 8, Dispute Resolution with the following:*

## **ARTICLE 8 DISPUTE RESOLUTION**

### **8.01 Methods and Procedures**

#### **8.01.1 Disputes Subject to Resolution**

The following disputed matters are subject to resolution under the provisions of this Article:

1. An appeal of an approval in part and denial in part of a Claim, or of a denial in full of any Claim or other dispute only where Contractor has fully complied with the applicable provisions of the Contract Documents to properly preserve such Claim; and
2. All disputes and Claims between Owner and Contractor concerning the Work or obligations under the Contract Documents

#### **8.01.2 Resolution of Disputes**

For any dispute subject to resolution under this Article, Owner or Contractor shall:

- elect in writing to invoke the dispute resolution process provided for herein and in the Contract;
- submit the dispute to mandatory mediation as a condition precedent to litigation unless waived by the Owner in its sole discretion. If dispute does not resolve through the mediation process, the Contractor and Owner agree that litigation may be commenced in the Worcester County Superior Court with Contractor and Owner agreeing to waiver of a trial by jury. The sole and exclusive jurisdiction for all disputes involving Owner shall be Worcester County.

#### **8.01.3 Contractor shall carry on the Work and maintain the progress schedule during the dispute resolution proceedings, unless otherwise agreed by Contractor and Owner in writing.**

**8.01.4** Interest on any Judgments: Interest, if any, required to be paid by the Owner pursuant to any judgment against it from a court of competent jurisdiction for this project shall be calculated at a weekly average one-year constant maturity Treasury yield, as published by the Board of Governors of the Federal Reserve System, for the calendar week preceding date of the judgment; provided, however, that such interest shall not exceed the rate of ten percent per annum. Owner is entitled to interest at the applicable statutory rate against Contractor.

*Replace the language in Document 0300, Construction Agreement, Article 9, Equal Employment Opportunity and Affirmative Action, Section 9.05 with the following:*

**9.05** The Contractor shall have no obligation relative to participation of Minority-Owned Business Enterprises (MBE) and/or Women-Owned Business Enterprises (WBE) on the basis of total dollars paid under this Contract.

*Add the following section to Document 0500, Special Provisions, Division I – General Conditions:*

### **PRICE ADJUSTMENTS**

This Contract contains price adjustments for hot mix asphalt and Portland cement mixtures, diesel fuel, and gasoline. For reference, the base prices are as follows: liquid asphalt \$665.00 per ton, Portland cement \$165.52 per ton, diesel fuel \$3.376 per gallon, and gasoline \$2.958 per gallon. MassDOT posts the Price Adjustments on their Highway Division's website at:

<https://www.mass.gov/topics/highway-construction-resources>

*Add the following paragraph at the end of Document 0500, Special Provisions, Division I – General Conditions, Permits and Fees:*

Work conducted by the Contractor under this Contract shall be conducted in accordance with MassDOT Highway Access Permit #3-2021-0176 as issued for this project.

*Replace the language in Document 0500, Special Provisions, Division I – General Conditions, Time of Completion for Phased Construction with the following:*

### **TIME OF COMPLETION FOR PHASED CONSTRUCTION**

The Project shall be constructed in three (3) distinct phases (hereafter referred to as “Phase I”, “Phase II” and “Phase III”) as follows:

#### **Phase I**

Phase I construction includes the proposed work associated with the inland wetland replication area (Item 755.35) as shown on Sheet 33 of 106. This work shall be substantially completed by June 1, 2022. Note that the second post-construction inspection report for the inland wetland replication area shall be completed no later than October 31, 2023.

Phase I construction also encompasses the proposed work as shown on the Plans beginning at construction baseline Station 21+00 and the project limit at construction baseline Station 26+50. This work, including installation of temporary left turn pavement markings, shall be substantially completed, save for final surface course paving and installation of permanent pavement markings, no later than July 30, 2022.

#### **Phase II**

Phase II construction encompasses the proposed work as shown on the Plans between construction baseline Stations 13+50 and 21+00. This work shall be substantially completed, save for final surface course paving and installation of permanent pavement markings, no later than September 30, 2022.

Final surface course paving and installation of permanent pavement markings between baseline Stations 13+50 and 26+50 shall be completed no later than October 31, 2022.

### **Phase III**

Phase III construction encompasses the proposed work as shown on the Plans beginning at construction baseline Station 3+00 and extending to construction baseline Station 13+50. This work shall include all final surface course paving and installation of permanent pavement markings between stations 3+00 and 13+50. This work shall be substantially completed no later than August 30, 2023.

*Replace the language in Document 0500, Special Provisions, Division I – General Conditions, Water System Castings, with the following:*

**WATER SYSTEM CASTINGS**

The Contract shall include the cost of adjusting to finished grade all existing water gate and service boxes within the limits of the project, whether or not the structures are visible prior to commencement of work. Concrete collars shall be provided for all water gates and service boxes to be adjusted in accordance with MassDOT Construction Standard Drawing 202.9.0.

*Replace the language in Document 0500, Special Provisions, Division II – Technical Specifications, Item 701.31, Stamped Cement Concrete Truck Apron with the following:*

<b><u>ITEM 701.31</u></b>	<b><u>STAMPED CEMENT CONCRETE PAVEMENT</u></b>	<b><u>SQUARE YARD</u></b>
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The work to be performed under this item shall conform to the relevant provisions of Sections 476 and 701 of the Standard Specifications and the following:

Stamped cement concrete pavement shall consist of red colored stamped cement concrete around the central islands and perimeter of the roundabouts (the truck aprons) as shown on the Plans. The cement concrete shall be 8 inches in thickness. A stamped brick pattern shall be utilized.

Truck aprons shall have radial joints extending from the modified granite curb towards the center of the island provided as per Section 476 of the Standard Specifications. Load transfer assemblies shall be utilized to ensure the longevity of the concrete apron and shall be spaced 18" on center. Expansion joints in the truck apron shall line up with the joints in the modified granite curb. The maximum distance between joints shown on the Plans shall be measured along the curbline.

Cement concrete shall be reinforced with 6"x6"x10 gauge welded steel fabric. Reinforcement shall be placed approximately two (2") inches from the bottom of the concrete.

The cement concrete shall be an integrally colored cast-in-place concrete admixture formulated by L.M. Scofield (201-672-9050), Davis Colors (800-638-4444), or Butterfield Color (1-800- 282-3388). The color shall be a red brick color and a sample color shall be submitted for approval by the Engineer.

The Contractor shall submit for approval, the complete technical data sheets for the colored admixture, curing compound, the design mixes, color samples, and stamped brick pattern.

The Installer shall have a minimum of five (5) years of experience installing colorized cast-in-place concrete in similar applications.

The Contractor shall install in place, an integrally colored concrete mockup for the cement concrete truck apron. The mockup shall be a minimum of 3 square yards. For accurate color, the quantity of concrete mixed to produce the sample should not be less than 3 cubic yards (or not less than 1/3 the capacity of the mixing drum on the ready-mix truck) and should always be in full cubic yard increments. The constructed mockup shall use processes and techniques intended for use on the permanent work, including curing procedures.

The Contractor shall include samples of control, construction, stamped brick pattern, and expansion joints in sample panels. The mockup shall be produced by the individual workers who will perform the work. The accepted mockup will provide the visual standard for the work and shall remain through completion of the work for use as a quality standard for the finished work.

Concrete materials and design shall be per Manufacturer's recommendations. Admixture shall be added per Manufacturer's recommendations.

The concrete mockup shall be allowed to cure for one (1) month prior to review for color acceptance.

The Contractor shall construct as many mockups as required by the Engineer until satisfactory colors and patterns are provided. The mockup(s) will not be part of the finished work.

Measurement and payment for work under this item shall be at the contract unit bid price per square yard, complete in place, which price shall constitute full compensation for all labor, materials, equipment, and incidentals necessary to complete the work to the satisfaction of the Engineer. Preformed joint filler and smooth dowel bars shall be considered incidental to this item, with no additional compensation to be made therefor.

*Replace the language in Document 0500, Special Provisions, Division II – Technical Specifications, Item 755.35, Inland Wetland Replication Area with the following:*

<u>ITEM 755.35</u>	<u>INLAND WETLAND REPLICATION AREA</u>	<u>LUMP SUM</u>
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The work to be performed under this item shall conform to the relevant provisions of Sections 120, 770 and 771 of the Standard Specifications and the following:

#### **General**

The work to be done under this item consists of furnishing all necessary labor, materials and equipment required for the protection, construction, oversight and maintenance of a Wetland Replication Area as shown on the Plans.

#### **Description**

It shall be the responsibility of the Contractor to retain a Botanist, Biologist, Wetland Scientist, or other individual with similar qualifications and a minimum of two (2) years of experience in similar wetlands replication, wetland hydrology and thoroughly versed in the Commonwealth of Massachusetts Wetlands Protection Act (MGL c. 131 §40) and all other relevant regulations of the Department of Environmental Protection. This individual, herein after referred to as "Wetland Specialist", shall be approved by the Engineer and the Town of Uxbridge Conservation Commission. The name and phone number of the Wetland Specialist shall be filed with the Conservation Commission prior to the initiation of work.

The construction of the Wetland Replication Area shall be conducted under the direct supervision of the qualified Wetland Specialist. The wetland replication area shall be constructed between the dates of April 1 and September 30. However, the planting of the nursery stock and the seeding of the disturbed soils shall occur as early in the growing season as possible (before June 30 is optimal) in order to avoid periods of drought associated with the summer months. The Contractor shall be responsible for the watering and protection of the nursery stock and seed after planting as per these specifications.

The Contractor shall plan and execute operations in a manner minimizing the amount of excavated and exposed fill, or other foreign material that are washed or otherwise carried into the replication area and adjacent wetland resource areas.

The intent of this specification is to construct the replication area as close as possible to the characteristics of the existing wetland. This operation shall be as continuous as possible once begun.

This project is subject to Chapter 131 of the Massachusetts General Laws, Section 40, as amended. Signs of not less than two (2 SF) square feet or more than three (3 SF) square feet bearing the words: "Massachusetts Department of Environmental Protection File Number #312-1134" shall be placed in locations directed by the Engineer. The Contractor shall furnish and erect the signs at the time physical construction work starts and maintain and move the signs, if necessary, in a satisfactory manner for the duration of the contract. All costs for the manufacture, erection, maintenance and removal of the signs shall be borne by the Contractor under the contract lump sum bid price, with no additional compensation to be made therefor.

The Contractor shall note that this project is subject to conditions specified under the Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Order of Conditions for Wetland Permit File #312-1134, and all regulations covered under the Massachusetts Wetland Protections Act.

### **Clearing and Grubbing**

All work shall be done in accordance with the relevant sections of the Standard Specifications. Clear and grub all trees, shrubs, and brush within the limits of work as shown on the Plans for the replication area work. Trees beyond this limit of work shall be retained in place.

### **Erosion/Sedimentation Controls**

No construction activity shall take place in the wetlands until sufficient erosion control devices have been employed on the site. A single line of compost filter tubes shall be installed along the limits of earth disturbance as shown on the Plans. This shall serve as a limit of work barrier.

Placement and removal of erosion controls (compost filter tubes) within the limits of work as described herein and as shown on the Plans, or when directed by the Engineer shall be paid for under Item 755.35.

### **Tree Trimming**

The work under this item shall conform to the relevant provisions of the Standard Specifications and the following:

Trees to be trimmed within the limits of work as shown on the Plans shall be determined by the Engineer and all work shall be done to the satisfaction of the Engineer. The quality and method of work must conform to accepted tree trimming practices.

The method of disposal of all materials shall be the responsibility of the Contractor and shall be approved by the Engineer. All methods of disposal shall be accomplished in accordance with all applicable Federal, State and local ordinances. Burning on-site shall not be permitted.

Tree trimming shall be paid under the lump sum bid price for Item 755.35, which price shall include all labor, material, equipment and incidental costs required to complete the work.

## **Tree Removal**

The work shall consist of the removal and disposal of trees within the limits of work designated on the Plans to be removed, complete with the stump and major root system. The hole left by the stump shall be backfilled with suitable material and compacted in accordance with the Standard Specifications.

The trees, together with stump and major roots, shall be disposed of outside the project limits. The method of disposal of all materials shall become the responsibility of the Contractor and shall be approved by the Engineer. All methods of disposal shall be accomplished in accordance with all applicable Federal, State and local ordinances. Burning on site will not be permitted.

No trees shall be cut without the approval of the Engineer.

All trees, stumps, brush and other vegetation shall be removed from the wetland areas to be impacted by the project. These materials are not to be stockpiled in the resource area or buffer zone while awaiting disposal.

Tree removal within the replication area as shown on the plans, regardless of size, shall be paid under the lump sum bid price for Item 755.35, which price shall include all labor, material, equipment and incidental costs required to complete the work.

## **Wetland Replication Requirements**

This wetland replication shall be performed under the direction and guidance of a qualified Wetland Specialist and as specified in these provisions. All work in replication area shall be in accordance with the Order of Conditions. The preparation of the replication area shall be accomplished in the following order:

The Commission shall be given 48-hour notice prior to the beginning of construction of the replication area. It is the intent of the Commission to meet the construction engineer and wetland specialist to discuss the restoration requirements and to ensure compliance with all special condition within the Order of Conditions.

Prior to excavation of the proposed replication and restoration areas, proposed grades shall be staked by a licensed land surveyor to indicate cuts necessary to achieve grade shown on the plans. The extent of the cut should include the necessary over-excavation to allow for backfill of clean organic soil.

Excavate wetland replacement area floor to twelve (12") inches below finished grade (subgrade) and the side slopes to six (6") inches below finish grade (subgrade).

Finished grade shall be at an elevation which shall provide a hydrologic connection between the replication area and the adjacent wetland as shown on the plans.

The wetland soils shall be deposited in the replacement area in a manner minimizing travel and subsequent compaction of the underlying material and replacement wetland soils.

All erosion control devices shall be removed from all areas after all upgradient soils have been stabilized as determined by the Engineer and Town of Uxbridge Conservation Commission.

## **References and Standards**

The following related terms are used herein and shall mean:

- A. Standard Specifications: the Massachusetts Department of Transportation - Highway Division's *2021 Standard Specifications for Highways and Bridges* and the latest *Supplemental Specifications*, as issued.
- B. ASNS: "American Standard for Nursery Stock," ASNS 260.1, latest edition, published by the American Association of Nurserymen, (AAN).
- C. SPN: "Standardized Plant Names," latest edition, by the American Joint Committee on Horticultural Nomenclature.
- D. AOAC: Association of Official Agricultural Chemists.
- E. Pruning Standards: The "Standards for Pruning Shade Trees" of the National Arborist Association, 174 Route 101, Bedford, NH 03102.

## **Submittals**

Prior to any disturbance, clear and legible digital photographs with date and time stamps shall be taken of the existing site conditions including existing wetlands to be impacted, all proposed wetland mitigation sites and reference/model wetland areas, typically an adjacent undisturbed wetland. These photographs shall be submitted to the Engineer via digital format on a compact disc (CD) or USB flash drive.

At least 30 days prior to ordering, the Contractor shall submit to the Engineer plant schedule and certificates with source and date, as well as material specifications for all wetland plants. No material shall be ordered until submittals have been approved by the Engineer. Delivered materials shall match approved materials.

At least 30 days prior to ordering, the Contractor shall submit to the Engineer seed packing certificates with source and date, as well as material specifications for all mulch materials. No material shall be ordered until submittals have been approved by the Engineer. Delivered materials shall match approved materials. A Manufacturer's Certificate of Compliance shall be submitted with each plant and seed shipment.

Seed shall be brought to the site in unopened bags for approval by the Engineer. Engineer shall collect certification from bag prior to opening bag and prior to any seeding activity. Certification list shall match species and approximate percentages listed herein or as recommended by the supplier. Seeding without approval of the Engineer shall be considered unacceptable for payment.

At least 30 days prior to ordering, the Contractor shall submit to the Engineer soil test results and certificates with source and date, as well as material specifications for all wetland soil materials. No material shall be ordered until submittals have been approved by the Engineer. Delivered materials shall match approved materials. Soil test results: Submit laboratory reports which state nutrient levels, pH, organic matter content and grain size seven (7) days prior to commencement of Work.

## **Materials**

### **Wetland Plants**

The intent of this section is to ensure that at least 75 percent of the replacement area surface is reestablished with indigenous wetland plant species within two (2) growing seasons of their planting in accordance with the Performance Standards of the Massachusetts Wetlands Protection Act Regulations. The following specifications provide for planting of the nursery stock, seeding, monitoring, and replacement of plant materials if necessary.

## **Planting Specifications**

After the replication area has been prepared as described above, the area shall be planted with nursery stock trees and shrubs as shown on the plan. The planting of the stock shall occur prior to June 1, 2021, while the seeding shall occur between April 15 and June 30 or as directed by the Wetland Specialist and approved by the Engineer.

## **Plant Materials**

All plant materials used shall be nursery grown and healthy, sound and free of disease, insect pests, eggs or larvae, and shall have a well-developed root system. Container grown plants shall have sufficient roots to hold planting mix intact after removal from containers without being root-bound.

Plant materials shall be planted within four (4) days of arrival on the project site.

The nursery stock planting shall consist of the material specified on the Plans. It may be necessary to substitute if the specified plant material is unavailable. Substitutions must be approved by the Wetland Specialist and the Engineer prior to planting.

The Contractor shall furnish all plants shown on the plans as specified, and in quantities listed. No substitutions will be permitted. All plants shall be nursery grown.

Plants shall be in accordance with the ASNS Standards of the American Association of Nurserymen (AAN) as a minimum requirement for acceptance. All plants shall be typical of their species or variety and have a normal habit of growth.

The root system of each plant shall be well provided with fibrous roots. All parts shall be moist and show active green cambium when cut. They shall be sound, healthy, and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae.

All plants must be moved with the root systems as solid units with balls of earth firmly wrapped with untreated eight (8 oz) ounce burlap, firmly held in place by a stout cord or wire in containers of a size as specified or of adequate size to allow root development for the plant size as per ASNS requirements. Plants prepared with plastic or other non-biodegradable wrappings will not be accepted. The diameter and depth of the balls of earth on balled and burlapped plants must be sufficient to encompass the fibrous root feeding system necessary for the healthy development of the plant. No plant will be accepted when the ball of earth surrounding its roots has been badly cracked or broken prior to, or during the process of planting or after the burlap, staves, ropes, container or platform required in connection with its transplanting have been removed. The plants and balls shall remain intact during all operation. All balled and burlapped plants that cannot be planted at once must be heeled in by setting in the ground and covering the balls with soil and watering.

The caliper of the trees shall be not less than the minimum size as required by ASNS standards based upon the height of the trees (measured from the crown of the roots to the tip of the top branch) as shown on the plans. Take caliper measurement for deciduous trees six (6") inches above ground level up to and including four (4") inch caliper size and twelve (12") inches above ground for larger sizes. Evergreen trees shall be of height designated on the Plans with spread in proportion to height, as designated in the ASNS Standards, and shall be well-branched to the ground. The trunk of each tree shall be a single trunk growing from a single un-mutilated crown of roots. No part of the trunk shall be conspicuously crooked as compared with normal trees of the same variety. The trunk shall be free from sunscald, frost cracks, or wounds resulting from abrasions, fire or other causes. No pruning wounds shall be present having a diameter exceeding two (2") inches and such wounds must show vigorous scar tissue on all edges. Plants shall not be pruned prior to delivery to the site.

Shrubs shall meet the requirements for spread or height stated on the Plans. The measurements for height shall be taken from the ground level to the average height of the shrub and not to the longest branch. Single stemmed or thin plants will not be accepted. The side branches must be generous, well twigged, and the plant as a whole well-branched to the ground. The plants must be in a moist vigorous condition, free from dead wood, bruises or other root or branch injuries.

Container grown stock shall have been grown in a container long enough for the root system to have developed sufficiently to hold its soil together, firm and whole. No plants shall be loose in the container. No container-grown plants shall be pot bound.

Plants delivered by truck and plants requiring storage on site shall be properly wrapped and covered to prevent wind-drying and desiccation of branches, leaves or buds; plant balls shall be firmly bound, unbroken, reasonably moist to indicate watering prior to delivery and during storage and tree trunks shall be free from fresh scars and damage in handling. No trees with double-leaders or twin-heads will be acceptable without the written approval of the Engineer. No plant material from cold storage will be accepted.

### **Planting Fertilizer**

The use of chemical fertilizers, pesticides, herbicides and sodium-based products is prohibited within 100 feet of the wetlands to reduce impact of these products on the resource areas when transported by stormwater or by leaching through the soil.

### **Planting Soil Mix**

Planting soil mix shall be approved loam which has been pH adjusted according to particular planting applications and improved through the addition of organic matter as directed below. Planting loam shall conform to the following pH levels:

- A. The amount of either sulphur or limestone required to adjust the planting loam to the proper pH range (above) shall be approved by the Design Engineer on the basis of soil tests as specified herein. It is not possible to safely add more than two hundred pounds (200 lbs.) of limestone/one thousand (1,000) square feet of loam, incorporated into the soil, or fifty pounds (50 lbs.) of limestone/one thousand (1,000) square feet of loam, surface application, within a single season. Therefore, loam shall have a starting pH of no lower than 4.2 for ericaceous plants and broad-leaved evergreens, and a starting pH of no lower than 5.0 for general planting of non-acid loving plants.

- B. Imported Loam: Natural, fertile, agricultural soil typical of locality, capable of sustaining vigorous plant growth, obtained from well drained site free of flooding, not in frozen or muddy condition, not less than 6 percent organic matter, and pH value of 6.0 to 8.0. Free from subsoil, slag, clay, stones 2-inches or greater, lumps, live plants, roots, sticks, crabgrass, noxious weeds, and foreign matter. Shall be 50-100% passing the 1" sieve.
- C. Organically-Enriched Topsoil: Fertile, friable, natural topsoil, typical of the locality. It shall be poorly drained, and capable of supporting plant growth. Topsoil shall contain greater than 12 percent organic carbon as determined by loss-on-ignition of oven-dried samples. It shall be free from admixture of subsoil, foreign matter, stumps, roots, weeds, toxic substances, stiff clay, stones or other objects larger than 1-inch in any dimension, and any material or substances that may be harmful to plant growth.

## **Water**

The Contractor shall be responsible to furnish their own supply of water to the site at no extra cost if municipal water is not available at the site at the time of planting. All work injured or damaged due to the lack of water, or due to the use of too much water, shall be the Contractor's responsibility to correct. Water shall be free from impurities injurious to vegetation. Water, including hose and all other watering equipment required for the work, shall be furnished by the Contractor to the site at no extra cost. Water shall be suitable for irrigation and free from ingredients harmful to plant life. All plants injured or work damaged due to the lack of water or the use of too much water shall be the Contractor's responsibility to correct.

## **Guying and Anchoring Materials**

Hose to encase wires shall be two-ply reinforced rubber garden hose not less than one-half inch inside diameter. Color shall be black. The Contractor may choose to substitute two (2") inch wide nylon webbing for the rubber hose. The webbing must be at least four (4") inches longer than the circumference of the tree and have brass grommet holes at each end for cable attachment.

Cable and Fittings: Cable shall be 13 gage, 7 strand, galvanized steel cable. Turnbuckles shall be of zinc-plated steel of size and gage to provide tensile strength equal to that of the cable. Turnbuckle opening shall be a minimum of three (3") inches. Cable clamps shall be malleable compression sleeves of zinc plated copper. Sleeves shall be of double barreled configuration for looped connection and sized to match the steel guy or anchor cable. Warning flags for evergreen tree guy wires shall be yellow plastic surveyor's flagging, one (1") inch wide and 24 inches long

All plantings shown on the drawings to be guyed shall be firmly staked, guyed or anchored at the time of planting. Stakes shall be of even height, evenly spaced around the tree, plumb, neat in appearance and shall not injure plant rootballs. Guy cables shall be secured to the tree by passing through an approved hose to prevent injury to the trees or securely fastened to an approved nylon webbing using specified compression sleeves.

## **Seed Mixes**

The following seed mixes shall be used in the areas indicated on the Plans. Submittals for approval must list actual percentages.

<u>Seed Mix</u>	<u>Area of Use</u>
New England Wetland Mix	Wet Meadow Seeding
New England Roadside Matrix Wet Meadow Seed	Wet Meadow Seeding

Any species substitutions shall be with a species having similar characteristics and native to New England.

### **Construction Methods**

#### **Planting**

Furnishing and planting of plant material includes the digging of the pits and plant beds, provision of soil additives required to adjust for pH requirements of specific plants, furnishing the plants as specified as well as the labor of planting, fertilizing, mulching, guying, and maintenance.

The Contractor shall locate plant material sources and ensure that plants are shipped in timely fashion for installation.

The Contractor shall locate all underground utilities within ten (10'-0") feet of the proposed planting pits and notify the Engineer of any conflicts prior to digging plant pits.

Location for all trees and shrubs and outlines for groundcover and bulb planting areas shall be staked on the ground by the Contractor for approval by the Engineer before any plant pits or plant beds are dug.

#### **Seasons for Planting**

Spring:      Woody materials - March 21 through June 1  
                 Evergreen materials - April 15 through June 1

Certain trees, as shown on the plans, shall only be planted in the spring. The Contractor shall arrange project schedule as necessary to allow for spring planting of these trees. Substitutions of other plants for the trees specified in order to perform fall planting shall not be accepted.

1. All plants for the project shall be individually tagged prior to digging with the Engineer's and Wetland Specialist's seals. No plants shall be accepted for delivery to the site without such seals.
2. Tree trunks shall be protected during shipping by a heavy walled cardboard sleeve or other suitable material, then unwrapped for inspection by Engineer after installation.
3. All trees and shrubs shall be planted within five (5) working days of arrival on site or shall be rejected by the Engineer. Container grown shrubs stored on site shall be shaded from direct sunlight at all times and shall not be stored on paved surfaces.
4. Plant pits shall be excavated as shown on plans. Holes for trees and planting mix backfill shall be as indicated on the plans and at least one (1'-0") foot greater in diameter than the ball and one (1'-0") foot deeper than the ball. Shrub planting beds shall be excavated two (2'-0") feet below proposed finish grade and shall extend a minimum of one (1'-0") foot beyond the rootball of shrubs placed at the edge of the planting bed.
5. Loosen the perimeter roots on the rootball of all container-grown shrubs, groundcovers and perennials prior to planting, as directed by the Engineer or Wetland Specialist.

6. All plant roots and earth balls must be damp and thoroughly protected from sun and wind from the beginning of the digging operation, during transportation and at the site until the final planting. Remove container plants from containers prior to planting. Trees and shrubs shall be placed in the center of plant pits, plumb with the crown of their roots exposed and located above the surrounding finish grade. After completion of planting installations, remove rope, burlap and wire baskets from only the top one-third (1/3) of the root balls. Wetland soil mix shall be backfilled in layers of not more than 6 inches and each layer watered sufficiently to settle before the next layer is put in place. Enough loam shall be used to bring the surface to finished grade when settled. A saucer shall be formed around each plant at a depth of six (6") inches for trees and four (4") inches for shrubs.
7. All plants shall be watered immediately following planting as necessary to thoroughly moisten rootball and plant pit loam and thereafter shall be inspected frequently for watering needs and watered, as required, to provide adequate moisture in the planting pit.
8. The Contractor shall inspect tree pits 24 hours after initial watering to confirm that they are draining properly. If surface water or excessively saturated plant pit soils exist, the Contractor shall immediately notify the Engineer.
9. Pruning:
  - a. Trees and shrubs shall be pruned following planting in accordance with the American Nurserymen's Association Standards for Class I, fine pruning, to preserve the natural character of the plant, as directed by the Engineer.
  - b. Tree pruning as required, shall be undertaken to the full height of affected trees.
  - c. All dead wood or suckers and all broken or badly bruised branches shall be removed. Never cut a leader.
10. All trees shall be firmly guyed or anchored at the time of planting, unless otherwise approved or directed by the Engineer. Cables used for guying shall be secured to the tree by passing through an approved hose or nylon webbing to prevent chafing and injury to the trees. All cable ends at stakes, webbing, deadmen, turnbuckles, hose or anchor connections shall be formed with a looped connection secured with compressed malleable fittings as specified.

## **Plant Maintenance**

The Contractor shall maintain all new plantings as indicated below. Maintenance shall begin immediately after each plant is planted and shall continue for a minimum of two (2) years following the completion of all planting installations, or until the final acceptance of all planting work, whichever is a longer period of time.

Maintenance of new plantings shall consist of keeping the plants in a healthy growing condition and shall include but is not limited to watering, weeding, cultivating, pruning, re-mulching, tightening and repairing of guys, removal of dead material, resetting plants to proper grades or upright position, and maintaining the planting saucer.

1. Plants shall be inspected for watering needs at least twice each week and watered as necessary to promote plant growth and vitality.

2. Planting beds shall be kept free of weeds, and mulch shall be maintained at the required depth. Beds and individual pits shall be neat in appearance with clearly defined edges and maintained to the designed layout.
3. Plants that die during the maintenance period shall be removed by the Contractor within one week of notification and replaced during that growing season.
4. Guy wires and anchoring cables shall be tightened and repaired weekly.

Work of pruning, fertilizing, spraying, and similar activities shall be undertaken only by certified arborists and chemical applicators, as pertinent to the work being performed.

During the maintenance period, any decline in the condition of existing trees and new plantings shall require the Contractor to take immediate action to identify potential problems and undertake corrective measures. If required, the Contractor shall engage professional arborists and/or horticulturalists to inspect plant materials and to identify problems and recommend corrective procedures. The Engineer shall be immediately advised of such actions. Inspection and recommendation reports shall be submitted to the Engineer.

### **Planting Inspection**

1. At the time of inspection, if the plant materials and workmanship are acceptable by the Engineer, the date of the inspection shall establish the end of the maintenance period and the commencement of the required guarantee period for planting work.
2. At the time of inspection or if, in the Engineer's opinion plant materials and/or workmanship is deficient, acceptance will not be granted, and the Contractor's responsibility for deficiencies are corrected. All dead and unsatisfactory plants shall be removed promptly from the project. Replacement plants shall conform in all respects to the Specifications for the original plants and shall be planted in the same manner

### **Plant Material Replacements**

Each plant shall show at least 75 percent healthy growth and shall have the natural character of a plant of its species as determined by the Engineer. Plants found to be unacceptable shall be removed promptly from the site and replaced immediately or during the next normal planting season, as permitted by the specifications, until the replaced plants live for two (2) full years. A final replacement inspection will be made after the replacement plantings have lived through two (2) full years.

All replacements shall be plants of the species, variety and size specified on the plans. The cost shall be borne by the Contractor, except for possible replacements due to vandalism or neglect on the part of others.

### **Planting Procedure**

Plants shall be positioned as shown on the plans or as directed by the Wetland Specialist. If unsuitable hydrologic conditions exist at the time of planting, the Wetland Specialist may reposition plants to maximize survivability.

To install each plant, a small hole shall be dug. A mixture of water and topsoil from the hole shall be prepared. The plant shall be removed from its container or burlap covering and set in the hole in a manner so that the top of the root ball is level with the surface of the ground. Care should be taken to keep the root ball intact while handling. Backfill the hole with water/soil mixture and compact lightly to eliminate any large air pockets.

After planting the nursery stock, each replacement area shall be hand raked to eliminate soil compaction. Hand raking shall continue until the top six inches of soil is loose.

### **Monitoring and Replacement**

Monitoring shall be performed in order to ensure satisfactory plant establishment and compliance with the Massachusetts Wetlands Protection Act Regulations performance standards.

Seasonal Monitoring reports shall be prepared for the replication area. Monitoring reports shall describe, using narratives, plans, and color photographs, the physical characteristics of the restoration area with respect to stability, soil characteristics, survival of vegetation and plant mortality, aerial extent and distribution, species diversity and vertical stratification (i.e. herb, shrub and tree layers). A total of two (2) monitoring reports for the restoration area shall be submitted following the two (2) growing seasons after implementation of the replication area. The monitoring reports shall be submitted to the Conservation Commission each fall (October) for the growing season.

### **First Post-Construction Inspection**

Following construction of the replication area and prior to other work on the site, the Wetland Specialist shall certify to the Conservation Commission that areas have been constructed in compliance with the Order of Conditions. Such certification shall be accompanied by a plan showing the limits of the replication and restoration area final grades as surveyed by the licensed surveyor.

### **Second Post-Construction Inspection**

A second inspection shall be made at the end of the second growing season (in October). The Wetland Specialist shall make note of the survivability of the nursery stock, the physical condition of the nursery stock, the percent vegetative cover within the replacement area, and the composition of the herbaceous layer. The report shall direct the Contractor to replace (in kind and size) all dead nursery stock in the manner outlined in these specifications, and to re-seed areas which do not exhibit 50% vegetative cover at no cost to the Department. This report shall be submitted to Massachusetts Highway Department for distribution to the Conservation Commission, Massachusetts Department of Environmental Protection, and the Contractor. Seventy-five percent (75%) cover of indigenous wetland species shall be considered satisfactory after the second growing season. If this percentage is not achieved, additional plantings must be completed by the Contractor at no additional cost to the Department.

### **Surface Preparation and Seeding of Bare Soils**

Bare soils shall be raked to remove large stiff clods, lumps, brush, roots, stumps, litter and other foreign matter. All depressions caused by settlement or rolling shall be filled with additional loam or compost and the soil shall be re-graded and rolled until presenting a firm, smooth and even finish corresponding to the required grades. No tracking or rolling shall be done on wet soil. Contractor shall obtain Engineer's written approval of fine grading and bed preparation before doing any seeding.

## **Seeding Methods**

Hydroseeding shall be per the Standard Specifications and per the Manufacturer's directions. Mulch for hydroseeding shall be weed free straw only.

For all seeded areas the Contractor shall notify the Engineer and arrange for inspections at the following times:

1. Before seeding, after loam has been spread and amendments have been incorporated
2. During hand seeding operations
3. Upon completion of hand seeding operations to establish the Maintenance Period
4. End of Maintenance Period to determine Acceptance of Work

For all top-dressed areas the Contractor will notify the Engineer and arrange for inspections when:

1. When overseeding is complete to establish a Maintenance Period
2. End of maintenance period to determine Acceptance of Work

## **Establishment**

Establishment shall begin immediately after any area is seeded, mulched, and erosion control matting (if used) is in place, and shall continue for a minimum of 60 days active growing period following the completion of all grass installation work and until final acceptance of the project. In the event that seeding operations are completed past October 1, then Establishment shall continue into the following spring and reseeding shall take place as necessary at that time.

The Contractor shall provide all labor and water required for establishment. Contractor shall water all seeded areas as necessary during Establishment period to ensure uniform soil moisture to a depth of two (2") inches or greater. Watering shall provide uniform coverage without eroding soil or grassed surfaces. Establishment shall include placement and resetting of protective barriers as required.

Maintenance and monitoring shall begin concurrently with Establishment period. Maintenance will include all necessary watering, repair, and reseeding to ensure establishment of perennials and grasses. Maintenance shall also include monitoring for invasive species. Any invasive species shall be immediately removed. All plant remains, including roots and shoots, shall be appropriately disposed off-site.

## **Inspection and Acceptance of Work**

All areas and parts of areas which, in the opinion of the Engineer, fail to show a uniform growth, for any reason whatsoever, shall be reseeded by a method approved by the Engineer and during an approved season. Reseeding shall be repeated until all areas are covered with a satisfactory growth of grass. All reseeding, together with necessary re-grading, soil amendment and erosion control, shall be done at the expense of the Contractor.

The Contractor shall control all dirt, dust erosion and other related construction emissions from the project to the satisfaction of the Engineer.

The Order of Conditions issued by the Conservation Commission will be included in these Special Provisions and made part of these Special Provisions.

Surplus materials obtained from any type of excavation, and not needed for further use as determined by the Engineer shall become the property of the Contractor and shall be disposed of by him outside the location subject to the regulations and requirements of local authorities governing the disposal of such materials, at no additional compensation

### **Clean Up**

Absolutely no debris may be left on the site. Repair any damage to site or structures to restore them to their original condition, as directed, at no cost to the Department

### **Basis of Payment**

The complete in place wetland replication area consists of furnishing all necessary labor, materials and equipment required for the construction of said wetland replication area as shown on the Plans, and shall be paid for at the contract lump sum bid price for Item 755.35.

The payment shall constitute full compensation for all materials, labor, and equipment required or incidental to the satisfactory completion of the work. Work within in the limits of the replication area to be paid under this item include employment of a Wetlands Botanist/Specialist, wetlands monitoring and reporting, erosion control placement and removal, clearing and grubbing of the area shown on the Plans, tree trimming, tree removal, plantings, seeding, any wetland provided and placed, wetland soils respread, grading, excavation, providing and restoring access to the replication areas and all other work called for under this item shall be paid for at the lump sum bid price for Item 755.35 which payment shall constitute full payment for all material, labor and equipment necessary to complete the stated work in a manner satisfactory to the Engineer.

The lump sum bid price shall also include all work required by the Order of Conditions which is attached and made part of this Contract.

Any components associated with replication area shown on the plans but not specifically called for under other items in the Contract shall be paid for under the relevant items included in this Contract.

*Replace the language in Document 0500, Special Provisions, Division II – Technical Specifications, Item 804.2, 2 Inch Electrical Conduit Type Nm - Plastic - (UL), Item 804.3, 3 Inch Electrical Conduit Type Nm - Plastic - (UL) (Double) and Item 806.3, 3 Inch Electrical Conduit Type RM – Galvanized Steel with the following:*

<b><u>ITEM 804.2</u></b>	<b><u>2 INCH ELECTRICAL CONDUIT</u></b>	<b><u>FOOT</u></b>
	<b><u>TYPE NM - PLASTIC - (UL)</u></b>	
<b><u>ITEM 804.3</u></b>	<b><u>3 INCH ELECTRICAL CONDUIT</u></b>	<b><u>FOOT</u></b>
	<b><u>TYPE NM - PLASTIC - (UL) (DOUBLE)</u></b>	
<b><u>ITEM 806.3</u></b>	<b><u>3 INCH ELECTRICAL CONDUIT</u></b>	<b><u>FOOT</u></b>
	<b><u>TYPE RM – GALVANIZED STEEL</u></b>	

The work to be performed under these items shall conform to the relevant provisions of Section 800 of the Standard Specifications and the following:

## **General**

The work shall include the furnishing and installing non-metallic and galvanized steel conduit for traffic signal and lighting systems in accordance with the Plans and as required by the Engineer. The conduit material shall be schedule 80 polyvinyl chloride (PVC) plastic conduit or rigid metallic conduit type RM, by location as identified on the Plans. The conduit quantity may be increased or decreased by the Engineer depending upon actual conditions encountered as provided for in Section 4.06 of the Standard Specifications.

The conduit shall be laid and covered in the trench with sand borrow as shown on the plans. Furnishing and installing all necessary or incidental couplings, reducers, fittings, and necessary incidental hardwire shall be included. A six (6") inch wide metallic detectable warning tape shall be used in conjunction with the installation of all conduit.

### ***Installation of Conduit in Grass or in Planted Areas***

Where new conduit is to be installed in grass or planted areas, work shall include placement of a minimum of four (4") inches of loam borrow, seed, and any other materials replaced in kind to restore disturbed areas to their original condition. Any existing plants (bushes, flowers, etc.) removed or damaged as a result of this project shall be replaced in kind. Conduit shall be installed within a bed of sand borrow and with a metallic detectable warning tape placed 18" above the conduit.

### ***Installation of Conduit under Sidewalks, Islands or Medians***

Where conduit is to be installed in sidewalks, paved islands or paved median areas, the work shall include excavating and backfilling of trenches, including all necessary compaction. Conduit shall be installed within a bed of sand borrow and with a metallic detectable warning tape placed 18" above the conduit.

### ***Installation of Conduit in Existing Roadways***

Where conduit is to be installed in existing roadway areas, the work shall include excavating and backfilling of trenches, including all necessary compaction. Conduit shall be installed within a bed of sand borrow and with a metallic detectable warning tape placed 18" above the conduit.

The Contractor shall place a trench patch within the roadway immediately following installation of the conduit and backfilling of the trench with compacted gravel borrow. The Contractor shall take extra care so as to ensure a smooth even transition between the top course material within the trench and the adjacent existing roadway pavement. Any deficiencies in the permanent pavement patch, including but not limited to settlement, uneven surface, poor ride quality, shall be repaired by the Contractor with no additional compensation as directed by the Engineer.

## **Compensation**

Measurement and payment for work under these items shall be made at the unit price per foot as installed, complete in place, which price shall constitute full compensation for all labor, tools, and equipment, for furnishing and installing conduit, fittings, bends, clamps, couplings, all trench excavation (except rock), backfilling, sand borrow, restoration of disturbed areas, joint encasement, de-watering, pull ropes, metallic detectable warning tape and all work necessary for the proper completion of the work specified herewith, as shown on the plans, or as directed by the Engineer.

Excavation of rock encountered in the installation of conduit shall be paid for under Item 144, Class B Rock Excavation.

Controlled density fill for backfill, if required by the Engineer, shall be paid for under Item 153.

Hot mix asphalt used for patching of trenches shall be paid under Item 451, HMA for Patching.

*Add the following Document 0510, Monthly Price Adjustment for Hot Mix Asphalt (HMA) Mixtures to the Special Provisions:*

**DOCUMENT 0510  
SPECIAL PROVISIONS**

**MONTHLY PRICE ADJUSTMENT FOR HOT MIX ASPHALT (HMA) MIXTURES**

This provision applies to all projects using greater than 100 tons of hot mix asphalt (HMA) mixtures containing liquid asphalt cement as stipulated in the Notice to Contractors section of the bid documents.

Price Adjustments will be based on the variance in price, for the liquid asphalt component only, between the Base Price and the Period Price. They shall not include transportation or other charges. Price adjustments will occur on a monthly basis.

**Base Price**

The Base Price of liquid asphalt on a project as listed in the Notice to Contractors section of the bid documents is a fixed price determined by the Department at the time of the bid using the same method as the determination of the Period Price detailed below. The Base Price shall be used in all bids.

**Period Price**

The Period Price is the price of liquid asphalt for each monthly period as determined by the Department using the average selling price per standard ton of PG64-28 paving grade (primary binder classification) asphalt, FOB manufacturer's terminal, as listed under the "East Coast Market - New England, Boston, Massachusetts area" section of the Poten & Partners, Inc. "Asphalt Weekly Monitor". This average selling price is listed in the issue having a publication date of the second Friday of the month and will be posted as the Period Price for that month. The Department will post this Period Price on its website at <https://www.mass.gov/service-details/2019-massdotcontract-price-adjustments> within two (2) business days following its receipt of the relevant issue of the "Asphalt Weekly Monitor". Poten and Partners has granted the Department the right to publish this specific asphalt price information sourced from the Asphalt Weekly Monitor. This method of period price determination was formerly called the New Asphalt Period Price Method. Separate website postings using both the New Asphalt Period Price Method and the Old Asphalt Period Price Method were discontinued after June 2013.

**Price Adjustment Determination, Calculation and Payment**

The Contract Price of the HMA mixture will be paid under the respective item in the Contract. Price Adjustments, as herein provided, either upwards or downwards, will be made after the work has been performed using the monthly period price for the month during which the work was performed.

Price Adjustments will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

The Price Adjustment applies only to the actual virgin liquid asphalt content in the mixture placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M3.11.03.

Price Adjustments will be separate payment items. The pay item numbers are 999.401 for a positive price adjustment (a payment) and 999.402 for a negative price adjustment (a deduction). Price Adjustments will be calculated using the following equation:

Price Adjustment = Tons of HMA Placed x Liquid Asphalt Content % x RAP Factor x (Period Price - Base Price)

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department approved extension of time.

*Add the following Document 0520, Monthly Price Adjustment for Diesel Fuel and Gasoline to the Special Provisions:*

**DOCUMENT 0520  
SPECIAL PROVISIONS**

**MONTHLY PRICE ADJUSTMENT FOR DIESEL FUEL AND GASOLINE**

This monthly fuel price adjustment is inserted in this contract because the national and worldwide energy situation has made the future cost of fuel unpredictable. This adjustment will provide for either additional compensation to the Contractor or repayment to the Commonwealth, depending on an increase or decrease in the average price of diesel fuel or gasoline.

This adjustment will be based on fuel usage factors for various items of work developed by the Highway Research Board in Circular 158, dated July 1974. These factors will be multiplied by the quantities of work done in each item during each monthly period and further multiplied by the variance in price from the Base Price to the Period Price.

The Base Price of Diesel Fuel and Gasoline will be the price as indicated in the Department's web site <https://www.mass.gov/service-details/massdot-current-contract-price-adjustments> for the month in which the contract was bid, which includes State Tax.

The Period Price will be the average of prices charged to the State, including State Tax for the bulk purchases made during each month.

This adjustment will be effected only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No adjustment will be paid for work done beyond the extended completion date of any contract.

Any adjustment (increase or decrease) to estimated quantities made to each item at the time of final payment will have the fuel price adjustment figured at the average period price for the entire term of the project for the difference of quantity.

The fuel price adjustment will apply only to the following items of work at the fuel factors shown:

<b>ITEMS COVERED</b>	<b>FUEL FACTORS</b>	
	<b>Diesel</b>	<b>Gasoline</b>
Excavation: and Borrow Work: Items 120, 120.1, 121, 123, 124, 125, 127, 129.3, 140, 140.1, 141, 142, 143, 144, 150, 150.1, 151 and 151.1 (Both Factors used)	0.29 Gallons / CY	0.15 Gallons / CY
Surfacing Work: All Items containing Hot Mix Asphalt	2.90 Gallons / Ton	Does Not Apply

**Add the following Document 0530, Price Adjustment for Portland Cement Concrete Mixes to the Special Provisions:**

**DOCUMENT 0530  
SPECIAL PROVISIONS**

**PRICE ADJUSTMENT FOR PORTLAND CEMENT CONCRETE MIXES**

This provision applies to all projects using greater than 100 Cubic Yards of Portland cement concrete containing Portland cement as stipulated in the Notice to Contractors section of the Bid Documents. This Price Adjustment will occur on a monthly basis.

The Price Adjustment will be based on the variance in price for the Portland cement component only from the Base Price to the Period Price. It shall not include transportation or other charges.

The Base Price of Portland cement on a project is a fixed price determined at the time of bid by the Department by using the same method as for the determination of the Period Price (see below) and found in the Notice to Contractors.

The Period Price of Portland cement will be determined by using the latest published price, in dollars per ton (U.S.), for Portland cement (Type I) quoted for Boston, U.S.A. in the **Construction Economics** section of *ENR Engineering News-Record* magazine or at the ENR website <http://www.enr.com> under **Construction Economics**. The Period Price will be posted on the MassDOT website the Wednesday immediately following the publishing of the monthly price in ENR, which is normally the first week of the month.

The Contract Price of the Portland cement concrete mix will be paid under the respective item in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the work has been performed, using the monthly period price for the month during which the work was performed.

The price adjustment applies only to the actual Portland cement content in the mix placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M4.02.01. No adjustments will be made for any cement replacement materials such as fly ash or ground granulated blast furnace slag.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of cubic yards of Portland cement concrete placed during each monthly period times the Portland cement content percentage times the variance in price between the Base Price and Period Price of Portland cement.

This Price Adjustment will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department approved extension of time.

*Replace Document 0400, Form for Bid in its entirety with the attached revised Document 0400, Form for Bid.*

**DOCUMENT 0400  
FORM FOR BID**

From: \_\_\_\_\_  
(Name of Bidder)

To: Town of Uxbridge (the "Town")

The Undersigned proposes to furnish all labor and materials required for the required for the reconstruction of Douglas Street (Route 16), including the construction of two (2) roundabouts at the Route 16/Route 146 (Worcester-Providence Turnpike) interchanges, in the Town of Uxbridge, Massachusetts, in accordance with the accompanying plans and specifications for the contract unit prices specified below, subject to additions and deductions according to the terms of the specifications.

Item No.	Estimated Quantity	Brief Description; Unit or Lump Sum price bid in both words and figures	Total Figure
101.	0.1 Acre	Clearing and Grubbing, per Acre _____ dollars and _____ cents (\$_____)	\$_____
120.	5,500 Cubic Yards	Earth Excavation, per Cubic Yard _____ dollars and _____ cents (\$_____)	\$_____
121.	225 Cubic Yards	Class A Rock Excavation, per Cubic Yard _____ dollars and _____ cents (\$_____)	\$_____
141.	85 Cubic Yards	Class A Trench Excavation, per Cubic Yard _____ dollars and _____ cents (\$_____)	\$_____
141.1	260 Cubic Yards	Test Pit for Exploration, per Cubic Yard _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
142.	15 Cubic Yards	Class B Trench Excavation, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
144.	425 Cubic Yards	Class B Rock Excavation, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
145.	7 Each	Drainage Structure Abandoned, per Each  _____ dollars and _____ cents (\$_____)	\$_____
146.	9 Each	Drainage Structure Removed, per Each  _____ dollars and _____ cents (\$_____)	\$_____
150.	10 Cubic Yards	Ordinary Borrow, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
150.1	145 Cubic Yards	Special Borrow, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
151.	3,800 Cubic Yards	Gravel Borrow, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2  
March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
151.2	70 Cubic Yards	Gravel Borrow for Backfilling Structures and Pipes, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
153.	10 Cubic Yards	Controlled Density Fill - Excavatable, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
170.	15,600 Square Yards	Fine Grading and Compacting, per Square Yard  _____ dollars and _____ cents (\$_____)	\$_____
201.	36 Each	Catch Basin, per Each  _____ dollars and _____ cents (\$_____)	\$_____
202.	9 Each	Manhole, per Each  _____ dollars and _____ cents (\$_____)	\$_____
204.	6 Each	Gutter Inlet, per Each  _____ dollars and _____ cents (\$_____)	\$_____
220.	118 Each	Drainage Structure Adjusted, per Each  _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
220.2	60 Feet	Drainage Structure Rebuilt, per Foot  _____ dollars and _____ cents (\$_____)	\$_____
220.3	7 Each	Drainage Structure Change-in-Type, per Each  _____ dollars and _____ cents (\$_____)	\$_____
220.6	6 Feet	Sanitary Structure Rebuilt, per Foot  _____ dollars and _____ cents (\$_____)	\$_____
220.7	24 Each	Sanitary Structure Adjusted, per Each  _____ dollars and _____ cents (\$_____)	\$_____
221.	24 Each	Frame and Cover, per Each  _____ dollars and _____ cents (\$_____)	\$_____
222.1	30 Each	Frame and Grate - MassDOT Cascade Type, per Each  _____ dollars and _____ cents (\$_____)	\$_____
223.1	33 Each	Frame and Grate (or Cover) Removed and Stacked, per Each  _____ dollars and _____ cents (\$_____)	\$_____

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
227.3	25 Cubic Yards	Removal and Disposal of Drainage Structure Sediment, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
227.31	3,350 Feet	Removal and Disposal of Drainage Pipe Sediment, per Foot  _____ dollars and _____ cents (\$_____)	\$_____
238.1	100 Feet	10 Inch Ductile Iron Pipe, per Foot  _____ dollars and _____ cents (\$_____)	\$_____
241.12	680 Feet	12 Reinforced Concrete Pipe, per Foot  _____ dollars and _____ cents (\$_____)	\$_____
358.	6 Each	Gate Box Adjusted, per Each  _____ dollars and _____ cents (\$_____)	\$_____
402.	1,125 Cubic Yards	Dense Graded Crushed Stone for Sub-Base, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
415.2	5,800 Square Yards	Pavement Fine Milling, per Square Yard  _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2  
March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
431.	12 Cubic Yards	High Early Strength Cement Concrete Base Course, per Cubic Yard  _____ dollars and _____ cents (\$_____)	\$_____
440.	76,000 Pounds	Calcium Chloride for Roadway Dust Control, per Pound  _____ dollars and _____ cents (\$_____)	\$_____
443.	55 MGL	Water for Roadway Dust Control, per Gallon  _____ dollars and _____ cents (\$_____)	\$_____
450.23	1,405 Tons	SUPERPAVE Surface Course - 12.5 (SSC - 12.5), per Ton  _____ dollars and _____ cents (\$_____)	\$_____
450.32	1,635 Tons	SUPERPAVE Intermediate Course - 19.0 (SIC - 19.0), per Ton  _____ dollars and _____ cents (\$_____)	\$_____
450.42	2,410 Tons	SUPERPAVE Base Course - 37.5 (SBC - 37.5), per Ton  _____ dollars and _____ cents (\$_____)	\$_____
451	130 Tons	HMA for Patching, per Ton  _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2  
March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
452.	2,050 Gallons	Asphalt Emulsion for Tack Coat, per Gallon _____ dollars and _____ cents (\$_____)	\$_____
453.	9,300 Feet	Hot Mix Asphalt Joint Sealant, per Foot _____ dollars and _____ cents (\$_____)	\$_____
472.	10 Tons	Hot Mix Asphalt for Miscellaneous Work, per Ton _____ dollars and _____ cents (\$_____)	\$_____
482.3	330 Feet	Sawcutting Asphalt Pavement, per Foot _____ dollars and _____ cents (\$_____)	\$_____
504.	3,970 Feet	Granite Curb Type VA4 - Straight, per Foot _____ dollars and _____ cents (\$_____)	\$_____
504.1	1,170 Feet	Granite Curb Type VA4 - Curved, per Foot _____ dollars and _____ cents (\$_____)	\$_____
504.2	11 Each	Granite Curb Type VA4 - Splayed End, per Each _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2  
March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
507.1	630 Feet	Granite Curb Type M100, per Foot _____ dollars and _____ cents (\$_____)	\$_____
509.	185 Feet	Granite Transition Curb for Pedestrian Curb Ramps - Straight, per Foot _____ dollars and _____ cents (\$_____)	\$_____
509.1	100 Feet	Granite Transition Curb for Pedestrian Curb Ramps - Curved, per Foot _____ dollars and _____ cents (\$_____)	\$_____
514.	11 Each	Granite Curb Inlet - Straight, per Each _____ dollars and _____ cents (\$_____)	\$_____
515.	6 Each	Granite Curb Inlet - Curved, per Each _____ dollars and _____ cents (\$_____)	\$_____
580.	660 Feet	Curb Removed and Reset, per Foot _____ dollars and _____ cents (\$_____)	\$_____
583.	2,480 Feet	Edging Removed and Reset, per Foot _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2  
March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
593.	5,420 Feet	Edging Removed and Stacked, per Foot _____ dollars and _____ cents (\$_____)	\$_____
620.12	175 Feet	Guardrail, TL-2 (Single Faced), per Foot _____ dollars and _____ cents (\$_____)	\$_____
627.82	2 Each	Guardrail Tangent End Treatment, TL-2, per Each _____ dollars and _____ cents (\$_____)	\$_____
628.22	2 Each	Transition to Rigid Barrier, per Each _____ dollars and _____ cents (\$_____)	\$_____
666.	350 Feet	Chain Link Fence Removed and Reset, per Foot _____ dollars and _____ cents (\$_____)	\$_____
685.	45 Cubic Yard	Stone Masonry Wall in Cement Mortar, per Cubic Yard _____ dollars and _____ cents (\$_____)	\$_____
697.1	45 Each	Silt Sack, per Each _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2  
March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
701.	410 Square Yard	Cement Concrete Sidewalk, per Square Yard  _____ dollars and _____ cents (\$_____)	\$_____
701.2	300 Square Yard	Cement Concrete Pedestrian Curb Ramp, per Square Yard  _____ dollars and _____ cents (\$_____)	\$_____
701.31	850 Square Yard	Stamped Cement Concrete Pavement, per Square Yard  _____ dollars and _____ cents (\$_____)	\$_____
702.	620 Tons	Hot Mix Asphalt Walk Surface, per Ton  _____ dollars and _____ cents (\$_____)	\$_____
715.	1 Each	Rural Mail Box Removed and Reset, per Each  _____ dollars and _____ cents (\$_____)	\$_____
740.	18 Month	Engineer's Field Office and Equipment (Type A), per Month  _____ dollars and _____ cents (\$_____)	\$_____
748.	1 Lump Sum	Mobilization, per Lump Sum  _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
751.	1,540 Cubic Yards	Loam Borrow, per Cubic Yard _____ dollars and _____ cents (\$_____)	\$_____
755.35	1 Lump Sum	Inland Wetland Replication Area, per Lump Sum _____ dollars and _____ cents (\$_____)	\$_____
756.	1 Lump Sum	NPDES Storm Water Pollution Prevention Plan, per Lump Sum _____ dollars and _____ cents (\$_____)	\$_____
765.	11,100 Square Yards	Seeding, per Square Yard _____ dollars and _____ cents (\$_____)	\$_____
767.121	4,300 Feet	Sediment Control Barrier, per Foot _____ dollars and _____ cents (\$_____)	\$_____
804.2	60 Feet	2 Inch Electrical Conduit Type NM - Plastic - (UL), per Foot _____ dollars and _____ cents (\$_____)	\$_____
804.3	1,300 Feet	3 Inch Electrical Conduit Type NM - Plastic - (UL), per Foot _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
806.3	30 Feet	3 Inch Electrical Conduit Type RM - Galvanized Steel, per Foot _____ dollars and _____ cents (\$_____)	\$_____
811.22	16 Each	Electric Handhole – SD2.022, per Each _____ dollars and _____ cents (\$_____)	\$_____
812.991	12 Each	Highway Light Pole Foundation, per Each _____ dollars and _____ cents (\$_____)	\$_____
813.40	1,680 Feet	Wire Type 8 No. 10 Direct Burial, per Foot _____ dollars and _____ cents (\$_____)	\$_____
813.43	5,200 Feet	Wire Type 8 No. 4 Direct Burial, per Foot _____ dollars and _____ cents (\$_____)	\$_____
813.48	200 Feet	Wire Type 8 No. 3/0 Direct Burial, per Foot _____ dollars and _____ cents (\$_____)	\$_____
813.71	32 Each	Ground Rod 8 Feet Long, per Each _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
813.82	1 Lump Sum	Electric Service Riser Abandoned, per Lump Sum  _____ dollars and _____ cents (\$_____)	\$_____
821.11	12 Each	Highway Lighting Pole (Anchor Base) 6 Foot Bracket, per Each  _____ dollars and _____ cents (\$_____)	\$_____
823.121	12 Each	Highway Lighting Luminaire - LED, per Each  _____ dollars and _____ cents (\$_____)	\$_____
823.61	1 Lump Sum	Highway Lighting Load Center No. 1, per Lump Sum  _____ dollars and _____ cents (\$_____)	\$_____
823.62	1 Lump Sum	Highway Lighting Load Center No. 2, per Lump Sum  _____ dollars and _____ cents (\$_____)	\$_____
827.21	6 Each	24 Inch Warning Cluster (OM1-1) - Aluminum Panel (Type A), per Each  _____ dollars and _____ cents (\$_____)	\$_____
831.	395 Square Feet	Roadside Guide Sign (D6/D8) - Aluminum Panel (Type A), per Square Foot  _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
832.	500 Square Feet	Warning - Regulatory and Route Marker - Aluminum Panel (Type A), per Square Foot _____ dollars and _____ cents (\$_____)	\$_____
841.1	14 Each	Supports for Guide Sign (D6 w/ D8 - 5 Inch Tubular Post) - Steel, per Each _____ dollars and _____ cents (\$_____)	\$_____
847.1	107 Each	Sign Support (Not Guide) and Route Marker with 1 Breakaway Post Assembly - Steel, per Each _____ dollars and _____ cents (\$_____)	\$_____
852.	410 Square Feet	Safety Signing for Traffic Management, per Square Foot _____ dollars and _____ cents (\$_____)	\$_____
853.1	5 Each	Portable Breakaway Barricade Type III, per Each _____ dollars and _____ cents (\$_____)	\$_____
853.2	1,070 Feet	Temporary Barrier (TL-2), per Foot _____ dollars and _____ cents (\$_____)	\$_____
853.21	7,080 Feet	Temporary Barrier Removed and Reset, per Foot _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
853.403	540 Days	Truck Mounted Attenuator, per Day _____ dollars and _____ cents (\$_____)	\$_____
853.41	4 Each	Temporary Impact Attenuator for Shoulder Incapable of Redirection, per Each _____ dollars and _____ cents (\$_____)	\$_____
853.411	30 Each	Temporary Impact Attenuator for Shoulder Incapable of Redirection, Removed and Reset, per Each _____ dollars and _____ cents (\$_____)	\$_____
853.8	10 Days	Temporary Illumination for Work Zone, per Day _____ dollars and _____ cents (\$_____)	\$_____
854.016	16,500 Feet	Temporary Paving Markings - 6 inch (Painted), per Foot _____ dollars and _____ cents (\$_____)	\$_____
854.036	560 Feet	Temporary Paving Markings - 6 inch (Removable Tape), per Foot _____ dollars and _____ cents (\$_____)	\$_____
854.1	200 Square Feet	Pavement Marking Removal, per Square Foot _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
856.12	1,080 Days	Portable Changeable Message Sign, per Day _____ dollars and _____ cents (\$_____)	\$_____
859.	140,000 Days	Reflectorized Drum, per Day _____ dollars and _____ cents (\$_____)	\$_____
859.1	2,160 Days	Reflectorized Drums with Sequential Flashing Warning Lights, per Day _____ dollars and _____ cents (\$_____)	\$_____
864.04	225 Square Feet	Pavement Arrows and Legends Reflectorized White (Thermoplastic), per Square Foot _____ dollars and _____ cents (\$_____)	\$_____
866.106	6,520 Feet	6 Inch Reflectorized White Line (Thermoplastic), per Foot _____ dollars and _____ cents (\$_____)	\$_____
866.112	1,220 Feet	12 Inch Reflectorized White Line (Thermoplastic), per Foot _____ dollars and _____ cents (\$_____)	\$_____
867.106	7,710 Feet	6 Inch Reflectorized Yellow Line (Thermoplastic), per Foot _____ dollars and _____ cents (\$_____)	\$_____

**Addendum #2**  
**March 16, 2022**

<b>Item No.</b>	<b>Estimated Quantity</b>	<b>Brief Description; Unit or Lump Sum price bid in both words and figures</b>	<b>Total Figure</b>
867.112	215 Feet	12 Inch Reflectorized Yellow Line (Thermoplastic), per Foot  _____ dollars and _____ cents (\$_____)	\$_____
874.2	11 Each	Traffic Sign Removed and Reset, per Each  _____ dollars and _____ cents (\$_____)	\$_____
874.4	33 Each	Traffic Sign Removed and Stacked, per Each  _____ dollars and _____ cents (\$_____)	\$_____
999.		Traffic Police (Allowance)  THREE HUNDRED EIGHTEEN THOUSAND dollars and ZERO cents (\$318,000)	<u>\$318,000</u>
		<b>TOTAL BID PRICE</b>  _____ dollars and _____ cents (\$_____)	\$_____

This bid includes addenda numbered: \_\_\_\_\_

### **Time for Completion**

The Project shall be constructed in three (3) distinct phases (hereafter referred to as “Phase I”, “Phase II” and “Phase III”) as follows:

#### **Phase I**

Phase I construction includes the proposed work associated with the inland wetland replication area (Item 755.35) as shown on Sheet 33 of 106. This work shall be substantially completed by June 1, 2022. Note that the second post-construction inspection report for the inland wetland replication area shall be completed no later than October 31, 2023.

Phase I construction also encompasses the proposed work as shown on the Plans beginning at construction baseline Station 21+00 and the project limit at construction baseline Station 26+50. This work, including installation of temporary left turn pavement markings, shall be substantially completed, save for final surface course paving and installation of permanent pavement markings, no later than July 30, 2022.

#### **Phase II**

Phase II construction encompasses the proposed work as shown on the Plans between construction baseline Stations 13+50 and 21+00. This work shall be substantially completed, save for final surface course paving and installation of permanent pavement markings, no later than September 30, 2022.

Final surface course paving and installation of permanent pavement markings between baseline Stations 13+50 and 26+50 shall be completed no later than October 31, 2022.

#### **Phase III**

Phase III construction encompasses the proposed work as shown on the Plans beginning at construction baseline Station 3+00 and extending to construction baseline Station 13+50. This work shall include all final surface course paving and installation of permanent pavement markings between stations 3+00 and 13+50. This work shall be substantially completed no later than August 30, 2023.

### **Record of Contractor’s Performance**

The bidder is requested to state below work of a similar character to that included in this proposal that will enable the Town to judge his experience, skill and business standing.

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**Bidder's Certifications**

1. The undersigned agrees that, if they are selected as general contractor, they will within ten (10) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Town, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, Each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the Town and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price.
2. The undersigned hereby certifies that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that they will comply fully with all laws and regulations applicable to awards made subject to Chapter 30, Section 39M of the Massachusetts General Laws.
3. The undersigned further certifies that they have filed all Massachusetts tax returns and paid all Massachusetts taxes required by law, and has complied with reporting of employees and contractors, and withholding and remitting of child support as provided by M.G.L. Chapter 62C, Section 49A.
4. The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of Chapter 29, Section 29F of the General Laws, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.
5. By signing and submitting this Form for Bid, each bidder represents that in regard to the conditions affecting the work to be done and the labor and materials needed, their bid is based on their own investigations and his familiarization with the site in conjunction with the plans and specifications and not on any oral or other representations of any employee, officer, agent or consultant of the Town.

**Addendum #2  
March 16, 2022**

Date: \_\_\_\_\_

(Print Name of General Bidder)

By: \_\_\_\_\_  
(Signature)

(Print Name of Person Signing Bid and Title)

(Business Address)

(City, State and Zip Code)

Telephone: (\_\_\_\_\_) - \_\_\_\_\_

Social Security Number or Federal Identification Number: \_\_\_\_\_

NOTE: If the bidder is a corporation, indicate state of incorporation and give full names of officers; if a partnership, provide full names and addresses of all partners; and if an individual, provide residential address if different from business address. Use the following spaces:

If a Corporation:

Incorporated in what state: \_\_\_\_\_

President: \_\_\_\_\_

Treasurer: \_\_\_\_\_

Secretary: \_\_\_\_\_

If a foreign corporation (incorporated or organized under laws other than the laws of the Commonwealth of Massachusetts), is the corporation registered with the Secretary of State of Massachusetts?

Yes \_\_\_\_\_ No \_\_\_\_\_

If the bidder is selected for the work referred to above, it is required under M.G.L. c.30 § 39L to furnish to the Town a certificate of the Secretary of State stating that the corporation has complied with M.G.L. c. 181 §§ 3, 5 and the date of such compliance.

**Addendum #2  
March 16, 2022**

If a Partnership: (Name all Partners):

Name of Partner: \_\_\_\_\_

Residence: \_\_\_\_\_

If an Individual:

Name: \_\_\_\_\_

Residence: \_\_\_\_\_

If an Individual doing business under a firm name:

Name of Firm: \_\_\_\_\_

Name of Individual: \_\_\_\_\_

Business Address: \_\_\_\_\_

Residence: \_\_\_\_\_

Other form of business organization: \_\_\_\_\_

The undersigned certifies under penalties of perjury that the undersigned's bid with respect to this contract is in all respects bona fide, fair and made without collusion or fraud with any other person. As used herein the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred and was not debarred when its bid was filed on Wednesday, March 16, 2022, from doing public construction work in the commonwealth under the provisions of section twenty-nine F of Chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Dated: \_\_\_\_\_

By: \_\_\_\_\_, Contractor

**Addendum #2  
March 16, 2022**

Pursuant to M.G.L. c. 62C, s. 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

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Signature of Individual

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Social Security # (Voluntary) or Federal Identification Number

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Corporate Name

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Corporate Officer

\* Approval of a contract or other agreement will not be granted unless this certification clause is signed by the applicant.

\*\* Your social security number will be furnished to the Massachusetts Department of Revenue to determine whether you have met tax filing or tax payment obligations. Providers who fail to correct their non-filing or delinquency will not have a contract or other agreement issued, renewed, or extended. This request is made under the authority of M.G.L. c. 62C s. 49A.

#### GENERAL NOTES

- ACCURACY AND COMPLETENESS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT GUARANTEED. UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATION, SIZE, TYPE ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED, PRIOR TO COMMENCING THE WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES. CALL "DIG-SAFE" 1-888-DIGSAFE (344-7233) AT LEAST 72 HOURS BEFORE COMMENCING CONSTRUCTION.
- ALL TOWN OWNED UTILITY STRUCTURES, WITHIN AREAS AFFECTED BY THE WORK SHALL BE ADJUSTED TO NEW LINE AND GRADE AS DIRECTED BY THE ENGINEER. ANY UTILITY POLES AND/OR GUY POLES, WITHIN AREAS AFFECTED BY THE WORK, SHALL BE REMOVED AND RESET BY THE RESPECTIVE UTILITY COMPANY AS INDICATED ON THE PLANS. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, UNLESS OTHERWISE NOTED ON THE PLANS, ALL UTILITY POLES AND/OR GUY WIRES/ANCHORS SHALL BE RETAINED.
- WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- EXISTING CONDITIONS PROVIDED FROM A FIELD SURVEY PERFORMED BY KELLY ENGINEERING GROUP, INC., 0 CAMPANELLI DRIVE, BRAINTREE, MA 02184, MA. PHONE: (781) 843-4333.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING GRADES. IF ANY ADJUSTMENT IS REQUIRED, THE CONTRACTOR SHALL NOTIFY AND SEEK THE APPROVAL OF THE ENGINEER PRIOR TO PERFORMING THE WORK.
- SHOP DRAWINGS OF ALL CASTINGS, PRECAST STRUCTURES, PIPE, LIGHTING EQUIPMENT AND MANUFACTURED COMPONENTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL PROPOSED CATCH BASIN CASTINGS SHALL BE MASSDOT STANDARD TYPE, AS INDICATED ON THE DRAINAGE PLANS.
- ALL EXISTING DRAINAGE LINES TO BE REPLACED SHALL BE ABANDONED IN PLACE UNLESS NOTED OTHERWISE. IF THEY CONFLICT WITH THE PROPOSED DRAINAGE LINES THEY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. DRAINAGE STRUCTURES TO BE ABANDONED SHALL BE FILLED WITH CONTROLLED DENSITY FILL - TYPE 2E.
- WHERE DRAINAGE PIPES OR STRUCTURES ARE ABANDONED IN PLACE THE CONTRACTOR SHALL MAKE SURE THAT ALL CONNECTING PIPES, INLETS AND OUTLETS ARE PLUGGED. ALL LIVE CONNECTIONS SHALL BE CONNECTED TO THE NEW SYSTEM.
- WHEN A PROPOSED CATCH BASIN INTERFERES WITH ANY UNDERGROUND UTILITY, A GUTTER INLET SHALL BE USED.
- CATCH BASIN, GUTTER INLET AND MANHOLE FRAMES AND GRATES/COVERS SHALL CLEARLY ALIGN WITH THE OPENINGS IN THE PRECAST STRUCTURES.
- CONCRETE COLLARS SHALL BE PROVIDED FOR ALL CATCH BASIN CASTINGS, MANHOLE CASTINGS AND WATER SERVICE BOXES. CONCRETE COLLARS SHALL BE BROUGHT UP TO A HEIGHT THAT WILL ALLOW 3" OF HOT MIX ASPHALT TO BE PLACED ABOVE THE COLLAR.
- ALL PROPOSED CASTINGS WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED TO FINISH GRADE. NEW CASTINGS SHALL BE PROVIDED FOR ALL DRAINAGE STRUCTURES TO BE ADJUSTED, REMODELED OR REBUILT.
- ALL WHEELCHAIR RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE ARCHITECTURAL ACCESS BOARD AND THE LATEST MASSDOT STANDARDS.
- LOCATION OF PROPOSED WHEELCHAIR RAMPS SHALL BE AS SHOWN ON THE PLANS AND VERIFIED BY THE ENGINEER IN THE FIELD.
- ALL CURB TIE DIMENSIONS ARE TO THE FACE OF THE CURB/BERM/EDGING (GUTTER LINE).
- ALL PROPOSED VERTICAL GRANITE CURB SHALL BE MASSDOT TYPE VA4.
- ALL EXISTING GRANITE CURB, CURB INLETS AND CURB CORNERS SHALL BE REMOVED AND STACKED UNLESS OTHERWISE NOTED ON THE PLANS.
- SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS SHALL BE IN ACCORDANCE WITH MASSDOT REQUIREMENTS, THE MUTCD AND THE SPECIAL PROVISIONS.
- UNLESS OTHERWISE NOTED, ALL BACKFILL SHALL CONSIST OF SUITABLE MATERIAL UNIFORMLY DISTRIBUTED IN 6 INCH LAYERS AND THOROUGHLY COMPAKTED TO 95 PERCENT OF THE MAXIMUM DRY DENSITY OF THE BACKFILL MATERIAL IN ACCORDANCE WITH ASTM D1557 MODIFIED PROCTOR.
- ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LOAM BORROW PLACED AND SEDED, THE LOAM BORROW SHALL HAVE A MINIMUM DEPTH OF 4 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM OR PAVEMENT SURFACE.
- AREAS DISTURBED BEYOND THE PROJECT LIMITS SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PROTECT ALL EXISTING TREES AND ROOTS THAT ARE NOT DESIGNATED FOR REMOVAL.
- THE LIMIT OF WORK SHALL BE THE STREET RIGHT-OF-WAY UNLESS SHOWN OTHERWISE.
- THE CONTRACTOR SHALL PROVIDE THE SERVICES OF A REGISTERED PROFESSIONAL SURVEYOR TO STAKE THE CONSTRUCTION LINE AND GRADE STAKES SHALL BE PROVIDED FOR ALL WORK PROPOSED UNDER THIS PROJECT.
- ALL SIGN AND PAVEMENT MARKING NOTES ARE SHOWN ON THE SIGN AND PAVEMENT MARKING PLANS.
- NEW SIDEWALK, WHEELCHAIR RAMPS AND/OR PRIVATE WALKS AND DRIVEWAYS SHALL BE CONSTRUCTED TO THE NEAREST CONSTRUCTION JOINT IN THE EXISTING ADJACENT SURFACE AS DIRECTED BY THE ENGINEER.
- CLEAR AND GRUB ALL AREAS BETWEEN THE EXISTING EDGE OF PAVEMENT AND THE BOTTOM AND TOP OF SLOPE UNLESS OTHERWISE NOTED ON THE PLANS. THIS SHALL INCLUDE ALL EXISTING TREES, SHRUBS AND PLANTINGS. ALL OTHER TREE & SHRUBS SHALL BE RETAINED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE TOWN FOR REMOVAL.
- ALL ELEVATIONS ARE BASED UPON THE NATIONAL NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- PROPOSED PAVEMENT SAWCUTS SHALL BE 1'-0" (MIN.) OFF THE FACE OF CURB, UNLESS OTHERWISE NOTED.
- ALL FILTER TUBES MUST BE INSTALLED AND IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.

#### PAVEMENT NOTES

##### FULL-DEPTH CONSTRUCTION (WIDENING 4'-0" OR GREATER)

SURFACE COURSE 1-3/4" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)  
INTERMEDIATE COURSE 2-1/4" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)  
BASE COURSE 4-1/2" SUPERPAVE BASE COURSE 37.5 (SBC-37.5)  
SUB-BASE 4" DENSE GRADED CRUSHED STONE PLACED OVER 8" GRAVEL BORROW, TYPE B

##### FULL-DEPTH BOX WIDENING (WIDENING GREATER THAN 6" & LESS THAN 4'-0")

SURFACE COURSE 1-3/4" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)  
INTERMEDIATE COURSE 2-1/4" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)  
BASE COURSE 6" H.E.S. CEMENT CONCRETE BASE COURSE  
SUB-BASE 8" GRAVEL BORROW, TYPE B

##### FULL-DEPTH DRIVEWAY CONSTRUCTION

SURFACE COURSE 2" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)  
INTERMEDIATE COURSE 3" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)  
SUB-BASE 4" DENSE GRADED CRUSHED STONE PLACED OVER 8" GRAVEL BORROW, TYPE B

##### MILLING & RESURFACING

SURFACE COURSE 1-3/4" SUPERPAVE SURFACE COURSE 12.5 (SSC-12.5)  
MILLING VARIABLE DEPTH PAVEMENT MILLING (PAVEMENT MILLING TO MEET LINES AND GRADES)

##### HOT MIX ASPHALT DRIVEWAY & APRON CONSTRUCTION

SURFACE COURSE 1-1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)  
INTERMEDIATE COURSE 2-1/2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)

BASE COURSE 8" GRAVEL BORROW, TYPE B

##### HOT MIX ASPHALT DRIVEWAY RECONSTRUCTION

SURFACE COURSE 1-1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)  
INTERMEDIATE COURSE 1-3/4" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)  
BASE COURSE REMOVE EXISTING ASPHALT PAVEMENT, RETAIN EXISTING GRAVEL BASE ADD GRAVEL BORROW, TYPE B AS REQUIRED

##### HOT MIX ASPHALT SIDEWALKS & SHARED USE PATH

SURFACE COURSE 1-1/4" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5)  
INTERMEDIATE COURSE 1-3/4" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5)  
BASE COURSE 8" GRAVEL BORROW, TYPE B

##### CEMENT CONCRETE WHEELCHAIR RAMPS & BUFFER STRIPS

SURFACE COURSE 4" CEM. CONC. (AIR ENTRAINED 4000 PSI, 3/4", 610)  
BASE COURSE 8" GRAVEL BORROW, TYPE B

##### TRUCK APRON

SURFACE COURSE 8" CEM. CONC. (AIR ENTRAINED 4000 PSI, 3/4", 610)

BASE COURSE 8" GRAVEL BORROW, TYPE B

##### TEMPORARY ROADWAY PAVEMENT AREA

INTERMEDIATE COURSE 2-1/4" SUPERPAVE INTERMEDIATE COURSE 19.0 (SIC-19.0)  
BASE COURSE 4-1/2" SUPERPAVE BASE COURSE 37.5 (SBC-37.5)

SUB-BASE 4" DENSE GRADED CRUSHED STONE PLACED OVER 8" GRAVEL BORROW, TYPE B

##### TACK COAT

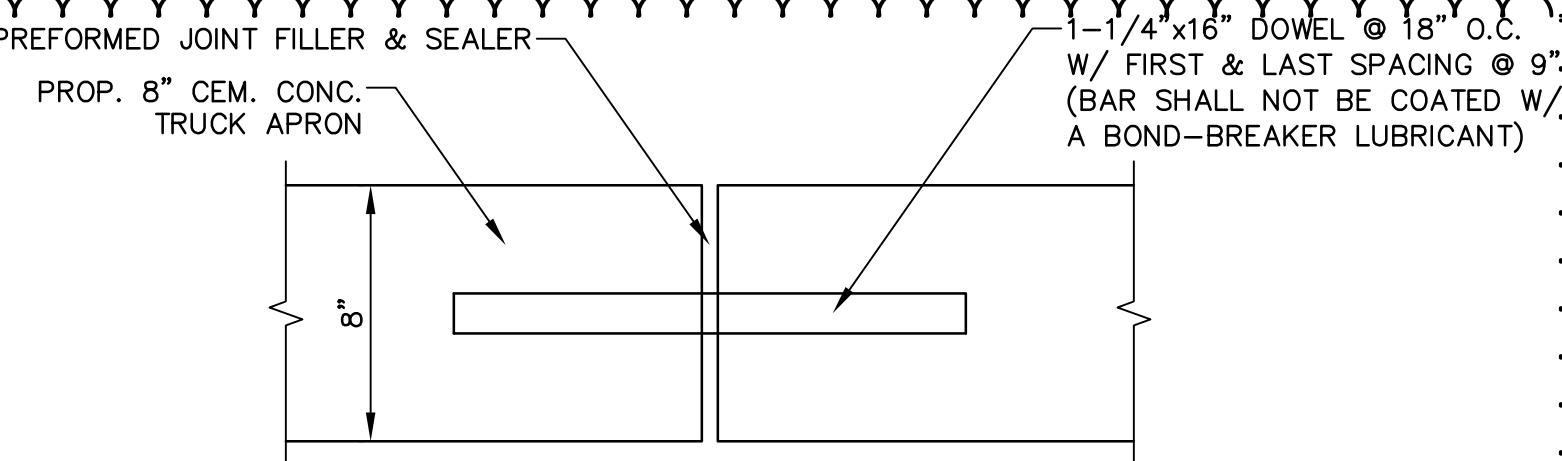
APPLY ASPHALT EMULSION RS-1H FOR TACK COAT OVER BASE COURSE, INTERMEDIATE COURSE AND MILLED SURFACES PRIOR TO PAVING OF THE PAVEMENT SURFACE COURSE.  
 ASPHALT EMULSION FOR TACK COAT SHALL BE TRIPLE OVERLAP SPRAY APPLIED FOR UNIFORM COVERAGE AT A RATE OF 0.06 TO 0.08 GALLONS PER SQUARE YARD OVER SMOOTH PAVEMENT, AT A RATE OF 0.07 TO 0.09 GALLONS PER SQUARE YARD OVER GROOVED OR MILLED SURFACES AND AT A RATE EQUAL TO THE SPRAY APPLICATION ON ADJACENT SURFACES FOR CEMENT CONCRETE BASE COURSES.

ALL TACK COAT APPLICATIONS SHALL ADHERE TO SUBSECTION 450.43 OF THE STANDARD SPECIFICATIONS.

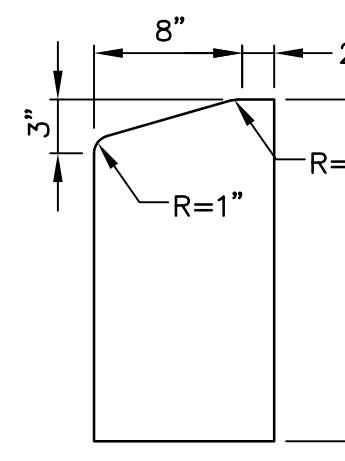
\* TEMPORARY PAVED AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FULL-DEPTH CONSTRUCTION (WIDENING 4'-0" OR GREATER), BUT SHALL EXCLUDE SURFACE COURSE PAVING.

**ADDENDUM #2  
(MARCH 16, 2022)  
ADDED TEMPORARY  
ROADWAY PAVEMENT NOTE**

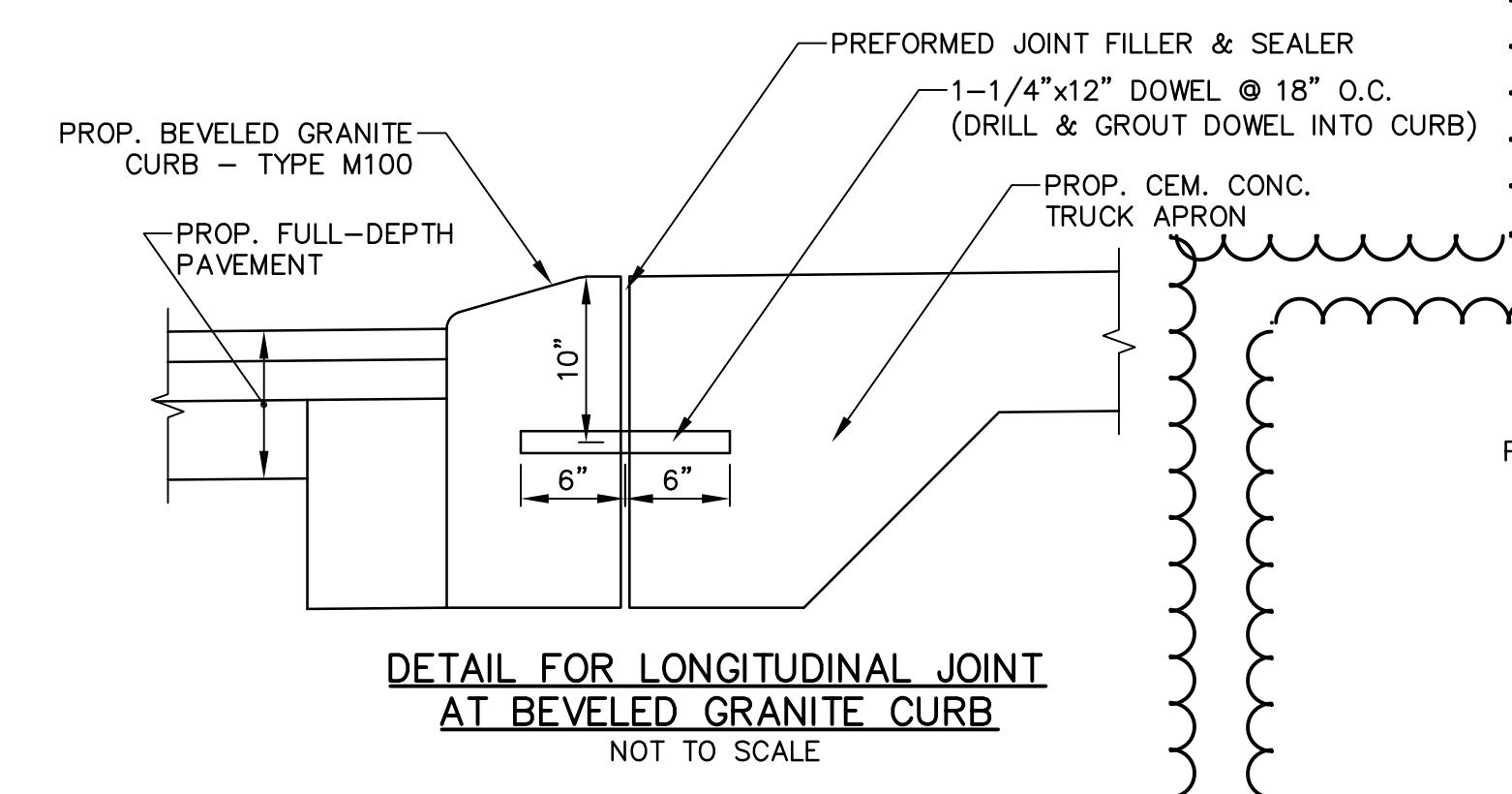
**ADDENDUM #2  
(MARCH 16, 2022)  
REMOVED TEMPORARY  
ROADWAY PAVEMENT NOTE**



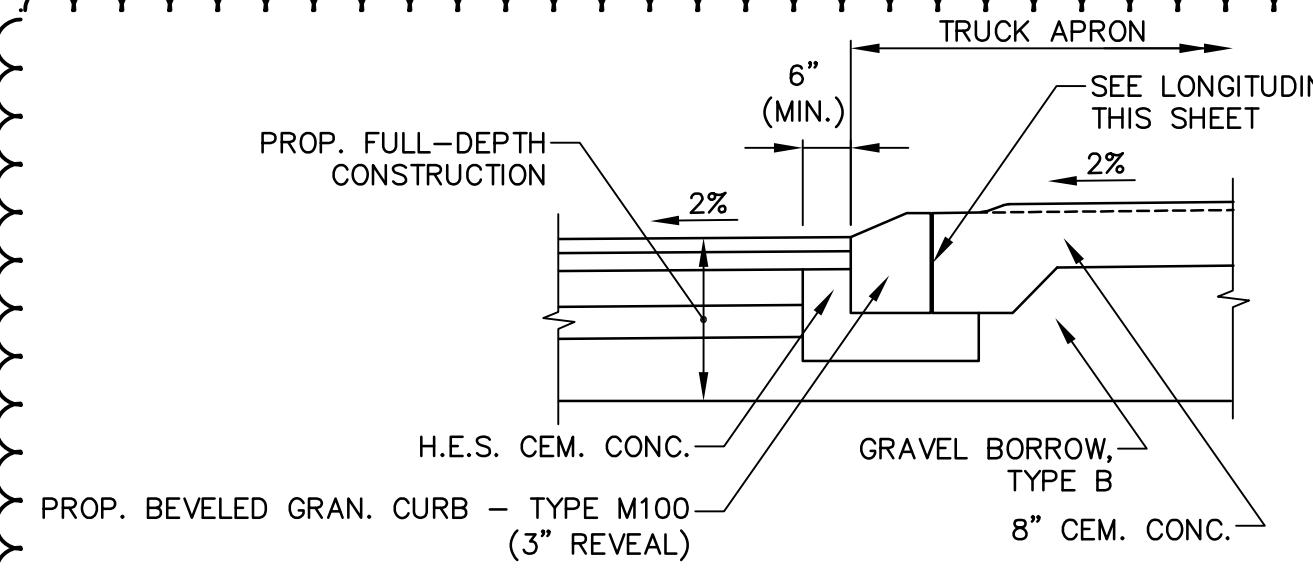
DETAIL FOR TRUCK APRON TRAVERSE EXPANSION JOINT  
NOT TO SCALE



DETAIL FOR BEVELED GRANITE CURB - TYPE M100  
NOT TO SCALE



DETAIL FOR LONGITUDINAL JOINT  
AT BEVELED GRANITE CURB  
NOT TO SCALE



SECTION A-A  
PROP. FULL-DEPTH TRUCK APRON  
(SEE ROUNDABOUT TYPICAL SECTION & PAVEMENT NOTES)

PLAN VIEW  
8" STAMPED CONCRETE APRON W/  
CONTRACTION/EXPANSION JOINTS  
(JOINTS NOT TO BE PLACED MORE THAN 30' APART)

DETAIL FOR CONCRETE TRUCK APRON  
NOT TO SCALE

1	ADDENDUM #2	JLS 3/16/22
REV.	DESCRIPTION	BY DATE

#### GENERAL NOTES, PAVEMENT NOTES & CONSTRUCTION DETAILS

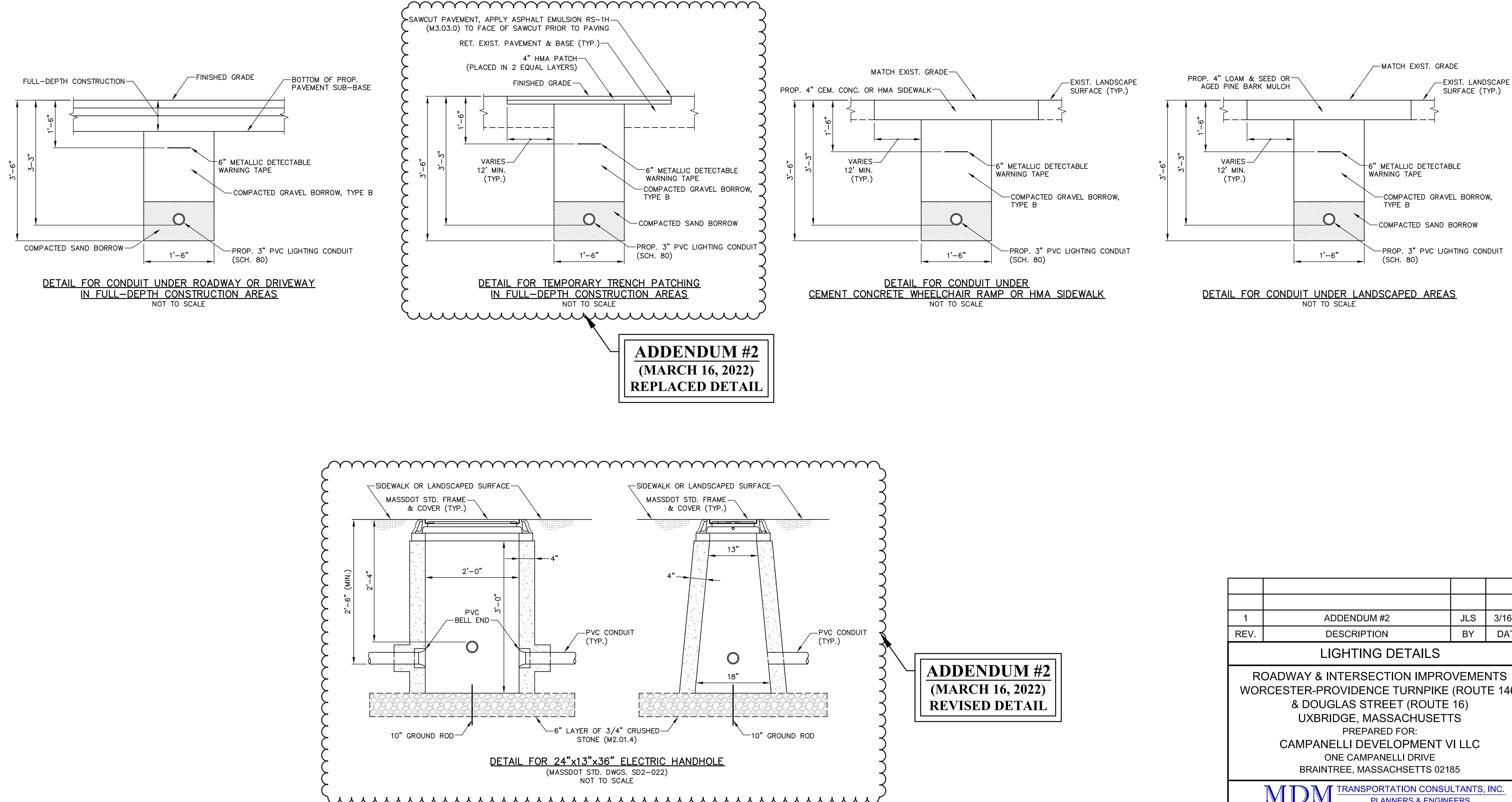
ROADWAY & INTERSECTION IMPROVEMENTS  
WORCESTER-PROVIDENCE TURNPIKE (ROUTE 146)  
& DOUGLAS STREET (ROUTE 16)  
UXBRIDGE, MASSACHUSETTS

PREPARED FOR:  
CAMPANELLI DEVELOPMENT VI LLC  
ONE CAMPANELLI DRIVE  
BRAINTREE, MASSACHUSETTS 02185

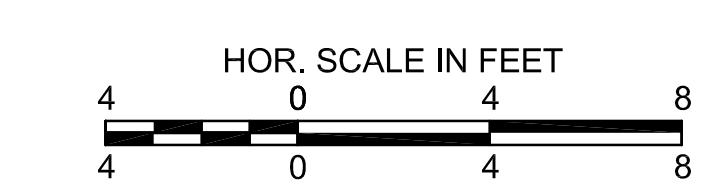
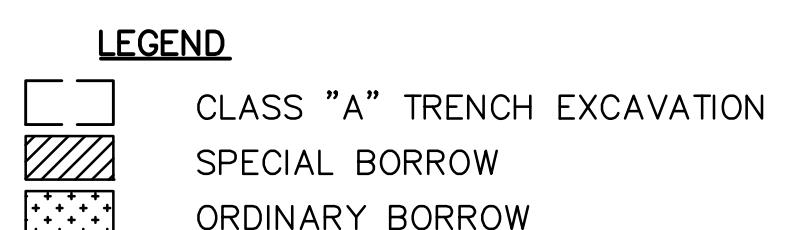
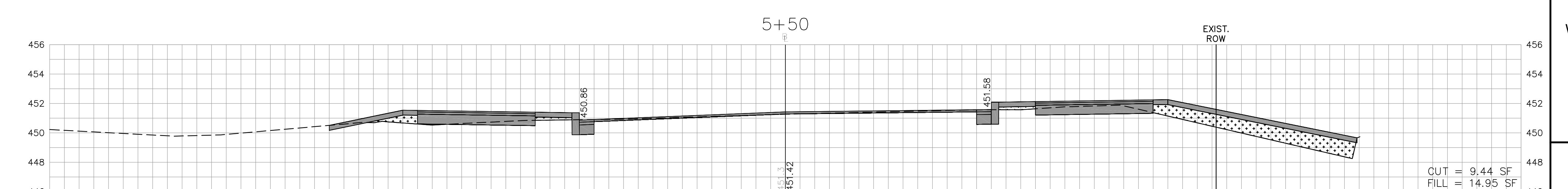
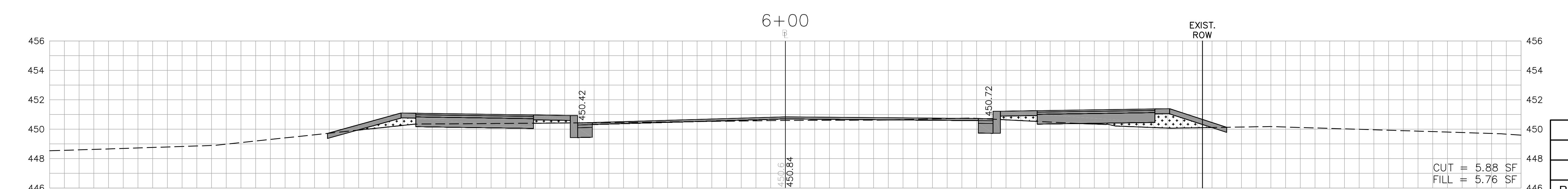
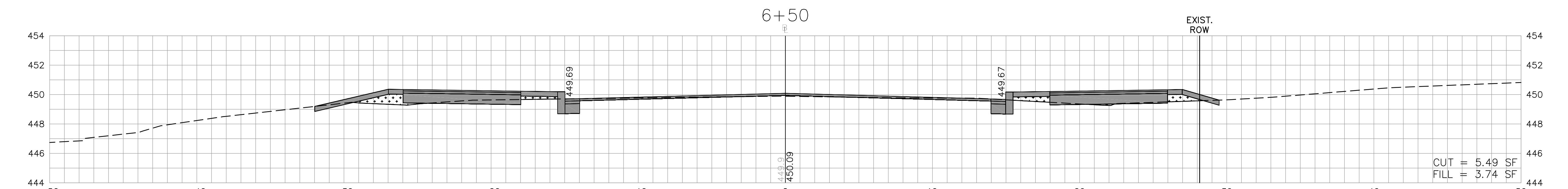
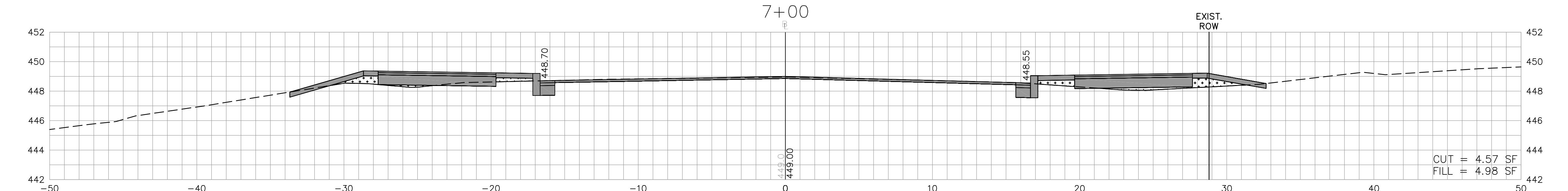
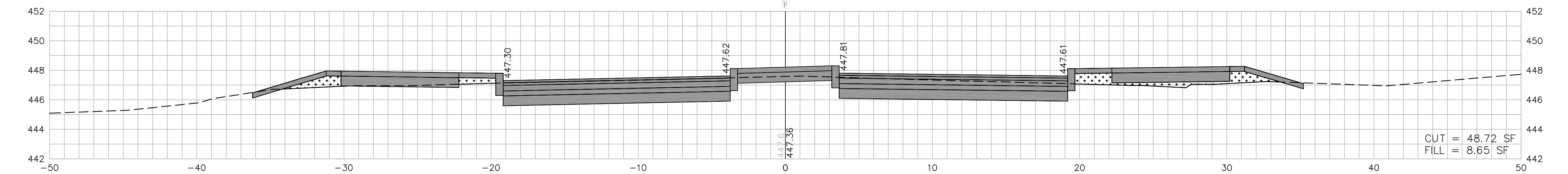
**MDM** TRANSPORTATION CONSULTANTS, INC.  
PLANNERS & ENGINEERS

28 Lord Road, Suite 280  
Marlborough, MA 01752  
Tel: (508) 303-0370

Project No. 1059	File Name: 1059 Details.dwg
Date: Mar. 8, 2021	Scale: As Noted



REV.	DESCRIPTION	JLS	DATE
<b>LIGHTING DETAILS</b>			
ROADWAY & INTERSECTION IMPROVEMENTS WORCESTER-PROVIDENCE TURNPIKE (ROUTE 146) & DOUGLAS STREET (ROUTE 16) UXBRIDGE, MASSACHUSETTS			
PREPARED FOR: CAMPANELLI DEVELOPMENT VI LLC ONE CAMPANELLI DRIVE BRAINTREE, MASSACHUSETTS 02185			
<b>MDM</b> TRANSPORTATION CONSULTANTS, INC. PLANNERS & ENGINEERS 28 Lord Road, Suite 280 Marlborough, MA 01752 Tel: (508) 303-0370			
Project No. 1059		File Name: 1059 Lighting Details.dwg	
Date: Mar. 8, 2021		Scale: As Noted	Sheet 57 of 106



REV.	DESCRIPTION	BY	DATE
1	ADDENDUM #2 - SHEET NUMBERING	JLS	3/16/22

#### CROSS SECTIONS - DOUGLAS STREET

ROADWAY & INTERSECTION IMPROVEMENTS  
WORCESTER-PROVIDENCE TURNPIKE (ROUTE 146)  
& DOUGLAS STREET (ROUTE 16)  
UXBRIDGE, MASSACHUSETTS

PREPARED FOR:

CAMPANELLI DEVELOPMENT VI LLC  
ONE CAMPANELLI DRIVE  
BRAINTREE, MASSACHUSETTS 02185

**MDM** TRANSPORTATION CONSULTANTS, INC.  
PLANNERS & ENGINEERS

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Marlborough, MA 01752  
Tel: (508) 303-0370

Project No. 1059	File Name: 1059 Cross Sections.dwg
Date: Mar. 8, 2021	Scale: As Noted